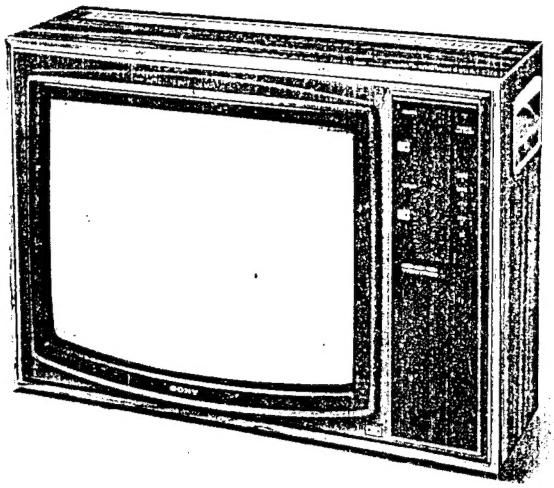


TRINITRON®
COLOUR TV

This manual contains the supplement No. 1.

SPECIFICATIONS

TV-signal standards:	British colour TV standards
Picture tube:	18" (45.7 cm) (measured diagonally), 114° deflection TRINITRON system
Semiconductors:	65 transistors, 62 diodes 3 IC's, 3GCS's, 1 FET
Aerials:	UHF: 75 Ω unbalanced
Channel coverage:	UHF: E21 ~ 68 ch
Intermediate frequencies:	Picture i-f carrier: 39.5 MHz Colour subcarrier: 35.07 MHz Sound i-f carrier: 33.5 MHz
Sound system:	6.0 MHz intercarrier Output power: 1.5 W (at 10 % harmonic distortion) Speaker: 10 cm (4 inches) dia, 8 ohms
Video system:	RGB cathode drive

Automatic controls:	AFT (automatic fine tuning) AGC (automatic gain control) AFC (automatic frequency control) ANC (automatic noise canceller) ABL (automatic brightness limiter) ACC (automatic colour control) ACK (automatic colour killer) ADG (automatic degaussing) AVR (automatic voltage regulator)
Power requirements:	240 V ac, 50 Hz
Power consumption:	140 W
Dimensions:	577 (w) x 402.5 (h) x 381 (d) mm $22\frac{3}{4}$ (w) x $15\frac{7}{8}$ (h) x 15 (d) inches
Net weight:	27 kg (59 lb 8 oz)
Accessories:	Earpiece (ME-20E) Instruction manual
Anode voltage:	25 kV at zero beam current

SERVICE MANUAL

TABLE OF CONTENTS

WARNING!!

THIS CHASSIS OPERATES WITH ONE SIDE OF THE POWER LINE CONNECTED TO THE CHASSIS. TO ELIMINATE SHOCK HAZARD AND PROTECT EQUIPMENT WHEN SERVICING THE SET WITH THE COVERS REMOVED, MAKE SURE THAT THE SET IS PLUGGED INTO A SUITABLY-RATED ISOLATION TRANSFORMER.

X-RAY RADIATION WARNING!!

BE SURE THAT PARTS REPLACEMENT IN THE HIGH VOLTAGE BLOCK AND ADJUSTMENTS MADE TO THE HIGH VOLTAGE CIRCUITS ARE CARRIED OUT PRECISELY IN ACCORDANCE WITH THE PROCEDURES GIVEN IN THIS MANUAL.

TRINITRON®
COLOUR MONITOR / TV

CKV-181E/181UB
CVM-1810E/1810UB
KV-1810E/1810UB

AEP & UK Model

February, 1976

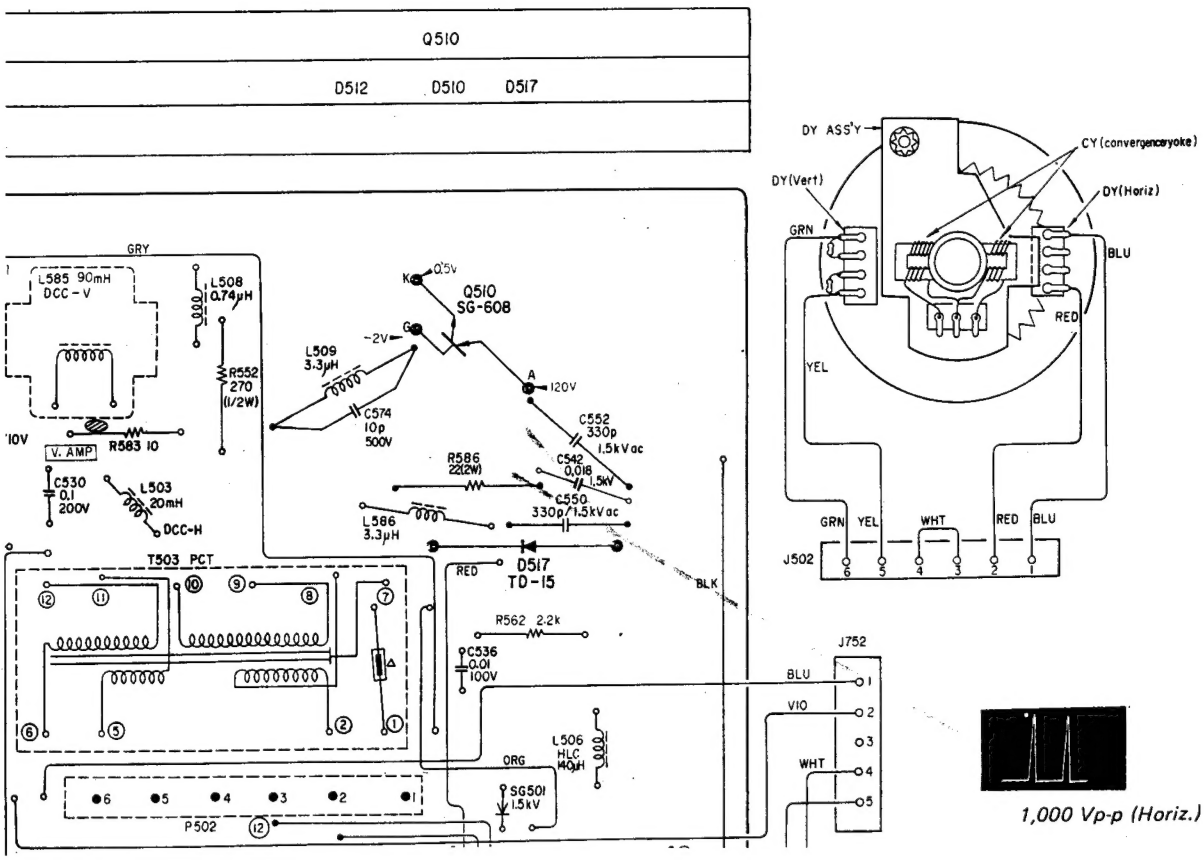
CORRECTION

1. MOUNTING DIAGRAM – VH Board –

: corrected portion

Note: ●– indicates parts or wire connection point on the conductor side.

○– indicates parts or wire connection point on the component side.

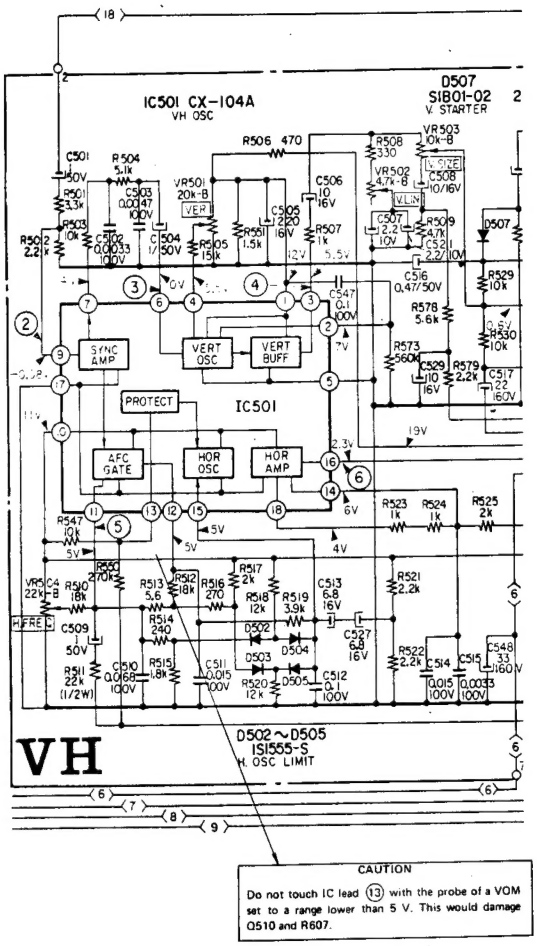


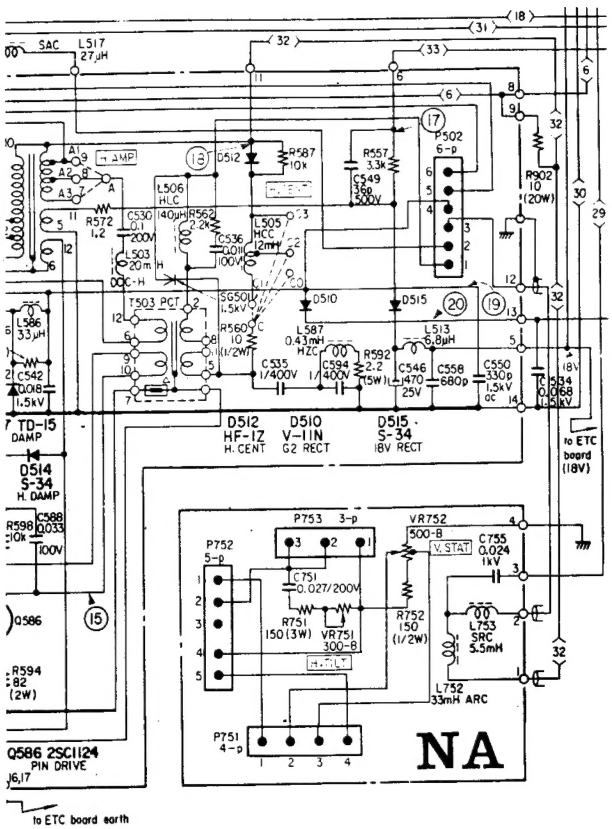
1,000 Vp-p (Horiz.)

SONY
SERVICE MANUAL

2. SCHEMATIC DIAGRAM – VH Board –

: corrected portions





SERVICING NOTES

1. PICTURE TUBE

(a) The picture tube used in this set has a new type of anode. There is a compression spring on the anode, as shown in Fig. a. Notice that replacement tubes already have that spring. Do not remove it. When the spring is accidentally damaged, remove it and install a new one as follows:

1. Turn the spring clockwise while gently pulling it out. Do not simply pull it off.
2. Install a new one turning it clockwise slowly. Do not simply push it in.

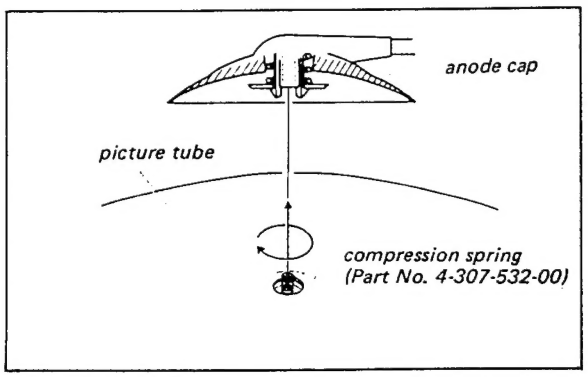


Fig. a. New anode cap and anode lead

(b) Use the jig (anode cap remover, Part No. 7-700-768-01) to remove the anode cap otherwise the picture tube might be damaged. Details are shown in Fig. b.

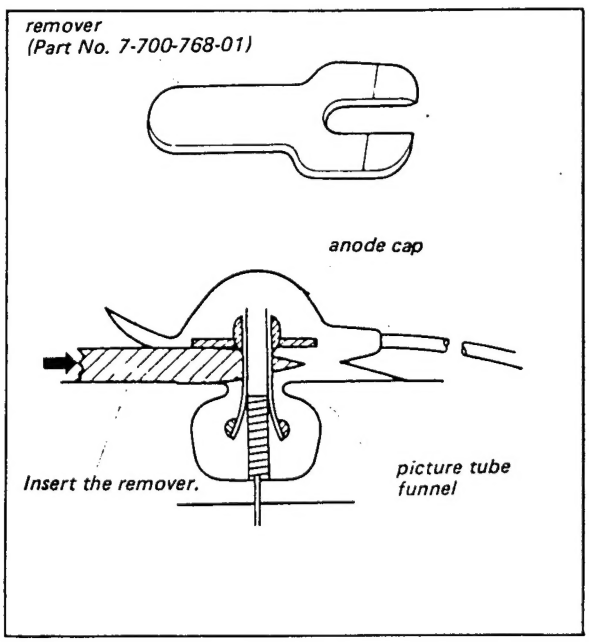


Fig. b. Anode cap removal

2. THE NEW GCS SEMICONDUCTOR DEVICE

Sony developed a new semiconductor device, named GCS, which stands for Gate Controlled Switch, and it is used in this set. Basically the structures of the GCS and SCR are identical, as shown in Fig. c. However, unlike SCR, conducting and non-conducting states of the GCS are obtained by applying positive or negative bias between the Gate and Cathode terminals. Conventional transistors are given bias voltage exactly the same way.

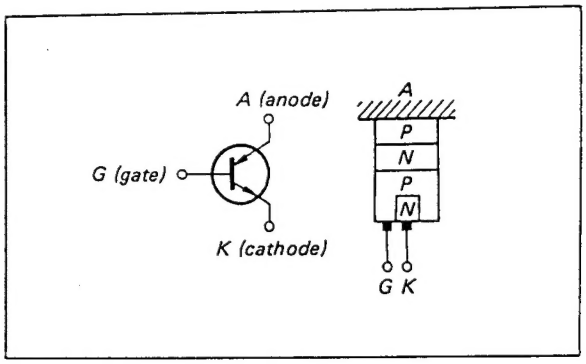


Fig. c. GCS lead and structure

Remark Concerning Replacement of GCS

The GCS's used in the set are selected according to their characteristics which are indicated by two letters printed on the case as shown in Fig. d. For replacement purposes we stock the "AA" rank of GCS for multiple use.

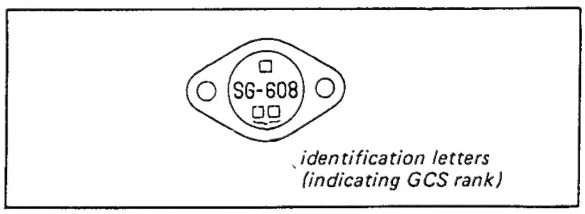


Fig. d. Identification of GCS rank

How to Test GCS by Using an Ohmmeter

a. Establish the polarity of your ohmmeter leads, i. e. how the ohmmeter-leads are connected to the internal battery. Mark them accordingly.

b. Measure the resistance between the three points (anode-gate, cathode-gate) in both directions (four tests) as shown in Fig. e. using R X1 scale. Normal resistance values are also shown, corresponding to the polarity of the ohmmeter.

The GCS under test is defective, if it shows any different resistance value.

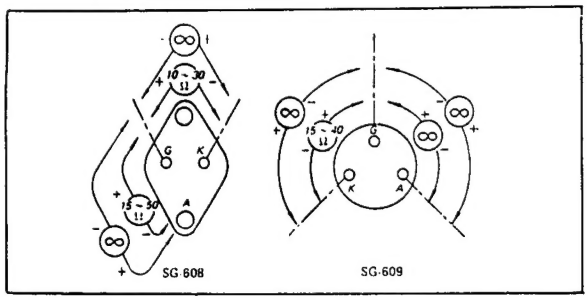


Fig. e. GCS test by ohmmeter

3. WIRE-WRAP CONNECTIONS

In this set "Wire-wrapping" is used to make connections (See Fig. f). If necessary to remove a wrapped wire, unwind it two or three turns and cut it. Since wire-wrapping cannot be done properly by hand, new connections have to be made by soldering them.

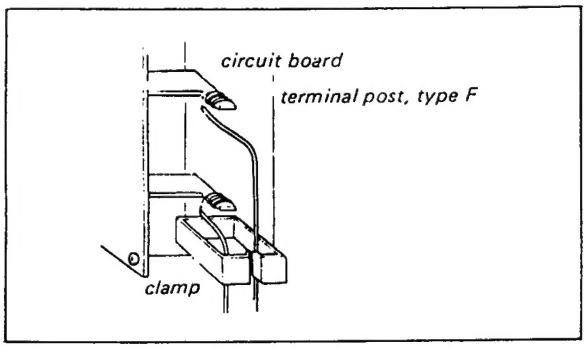


Fig. f. Wire-wrapping connection

4. PRECAUTIONS WHEN HANDLING IC's:

Do not short adjacent IC leads during electrical tests, as this might damage the IC. In this set special care should be taken for IC501 (Vert. and Horiz. Osc.). Shorting certain adjacent leads might damage Q510 (Horiz. Output) and blow the fuse (F601). Do not touch IC lead (13) (IC501) with the probe of a VOM set to a lower range than 5 V. This would damage Q510 and R607.

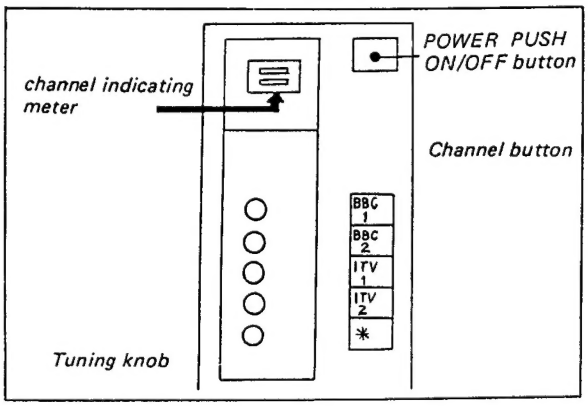


Fig. g. Switches and controls

5. CHANNEL PRETUNING

Once you pre-tune the channels active in your area, just one push of a finger is enough to select a channel.

Set the programme button marked BBC1 for the BBC-1 (for example 26 channel, Crystal Palace).

- For information about channel numbers active in your area, consult a newspaper, the Radio Times, or the T.V. Times.

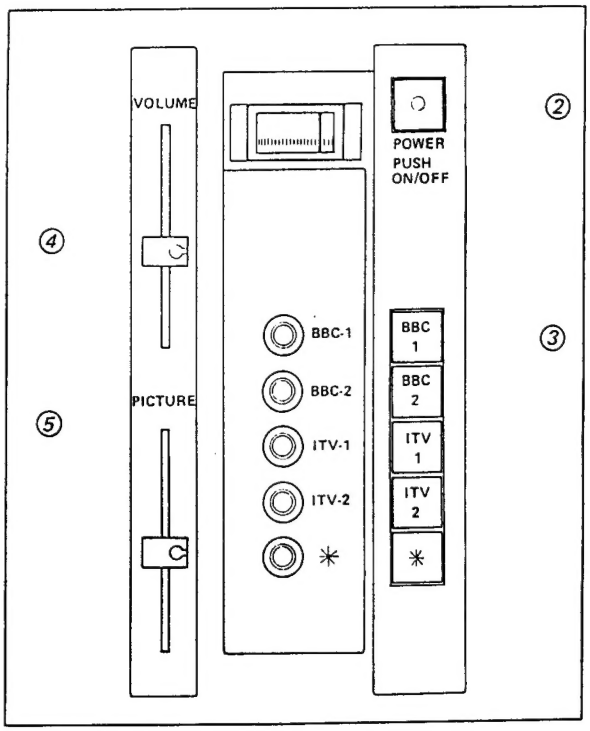


Fig. h. Channel pretuning

① Plug the mains lead into a convenient wall outlet.

② Push the POWER PUSH ON/OFF button.

③ Push the programme button marked BBC1.

④ Turn the tuning knob clockwise or anticlockwise until the pointer of the channel indicating meter comes to the approximate position of the 26 channel, so that the BBC-1 programme appears on the screen.

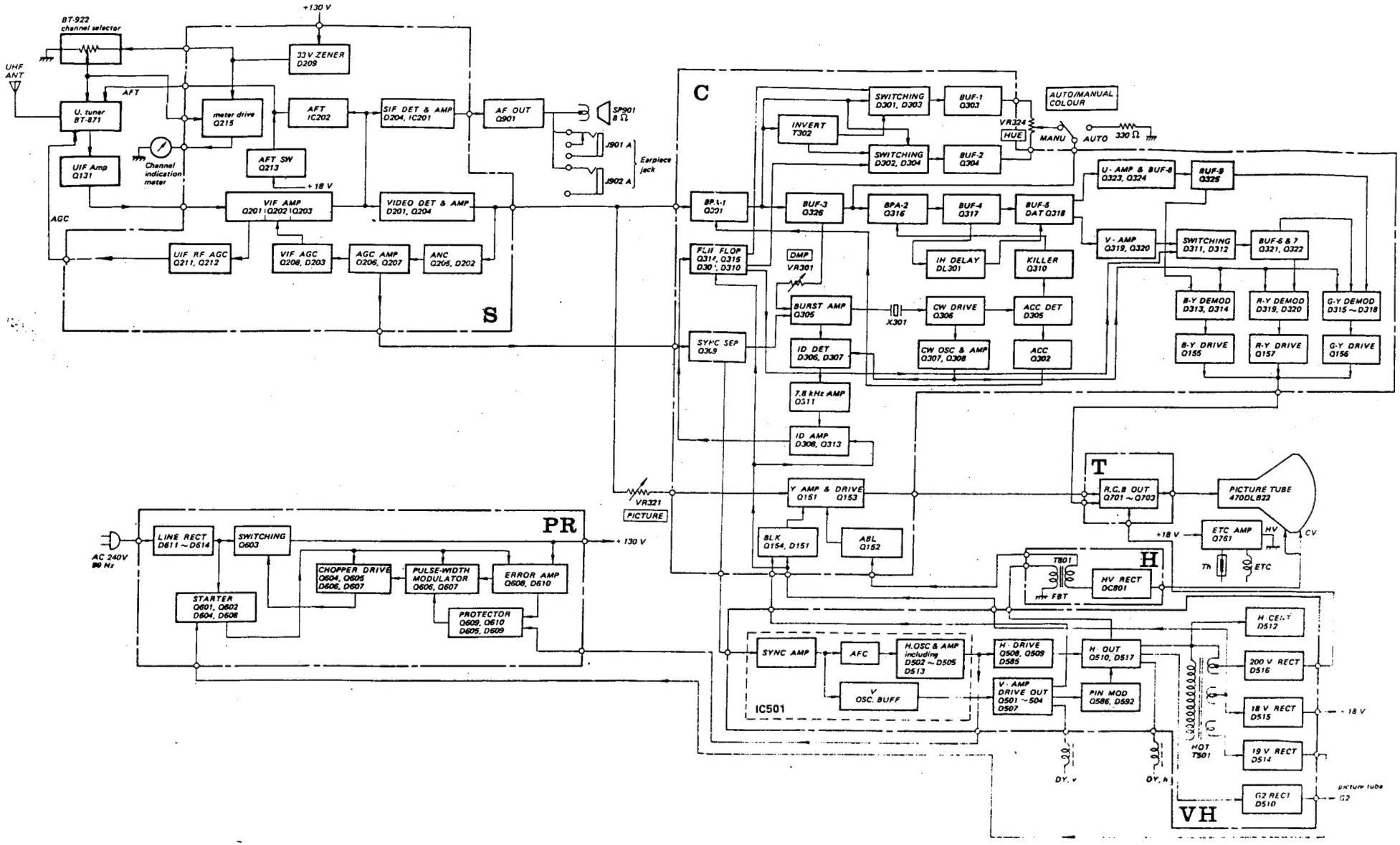
⑤ Stop turning at the point where the herringbone pattern just disappears in the coloured parts of the picture and the picture is clear. This is the correct tuning point for BBC-1.

Repeat the above steps for each of the other channels you wish to receive.

SECTION 1

TECHNICAL DESCRIPTION

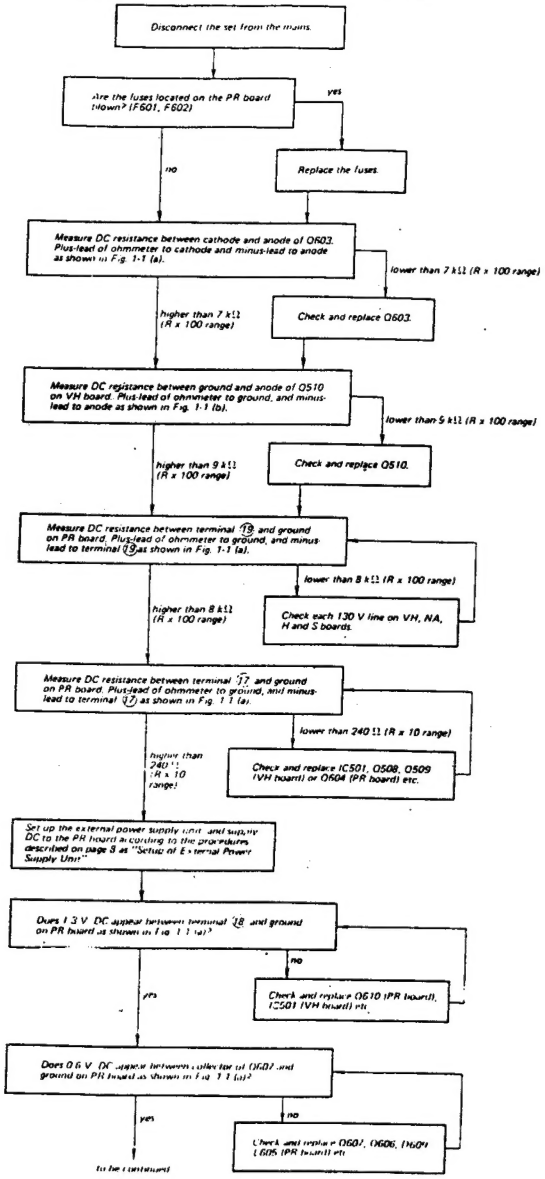
1-1. BLOCK DIAGRAM

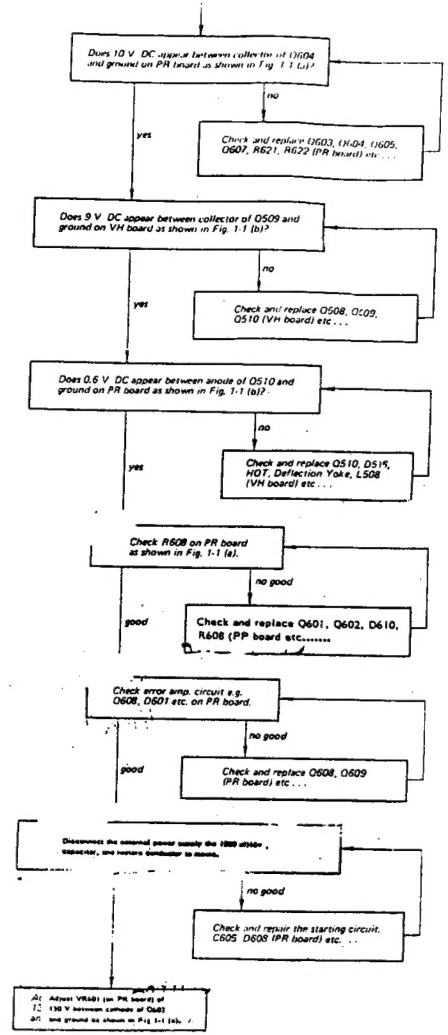


1-2. TROUBLESHOOTING CHART

Note: A new power supply circuit is used in KV-1810UB, and troubles caused by this circuit may not be located by the conventional voltage check technique. Therefore the new troubleshooting procedure given below will be useful in locating these failures in the power supply circuit which result in: No raster-no sound.

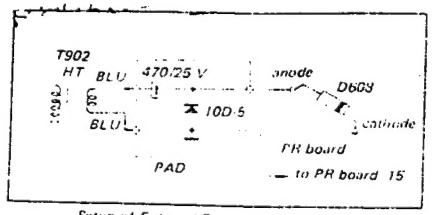
[No Raster, No Sound]





Setup of External Power Supply Unit

1) Disconnect the set from the mains.
2) Unsolder the BLU lead from terminal (14) on PR board, thereby carefully avoiding any contact or overheating of other components.
3) Disconnect the anode lead of D608 from the PR board.
4) Unsolder the two BLU leads of the heater transformer from terminals (6) and (7) on T board, and connect them to the circuit as shown.
5) Solder a capacitor 1000 μF 16 V between the cathode of D605 and ground (conductor side).
6) Check that 10 V DC appears at the cathode of D608 when power is switched on.



Setup of External Power Supply Unit

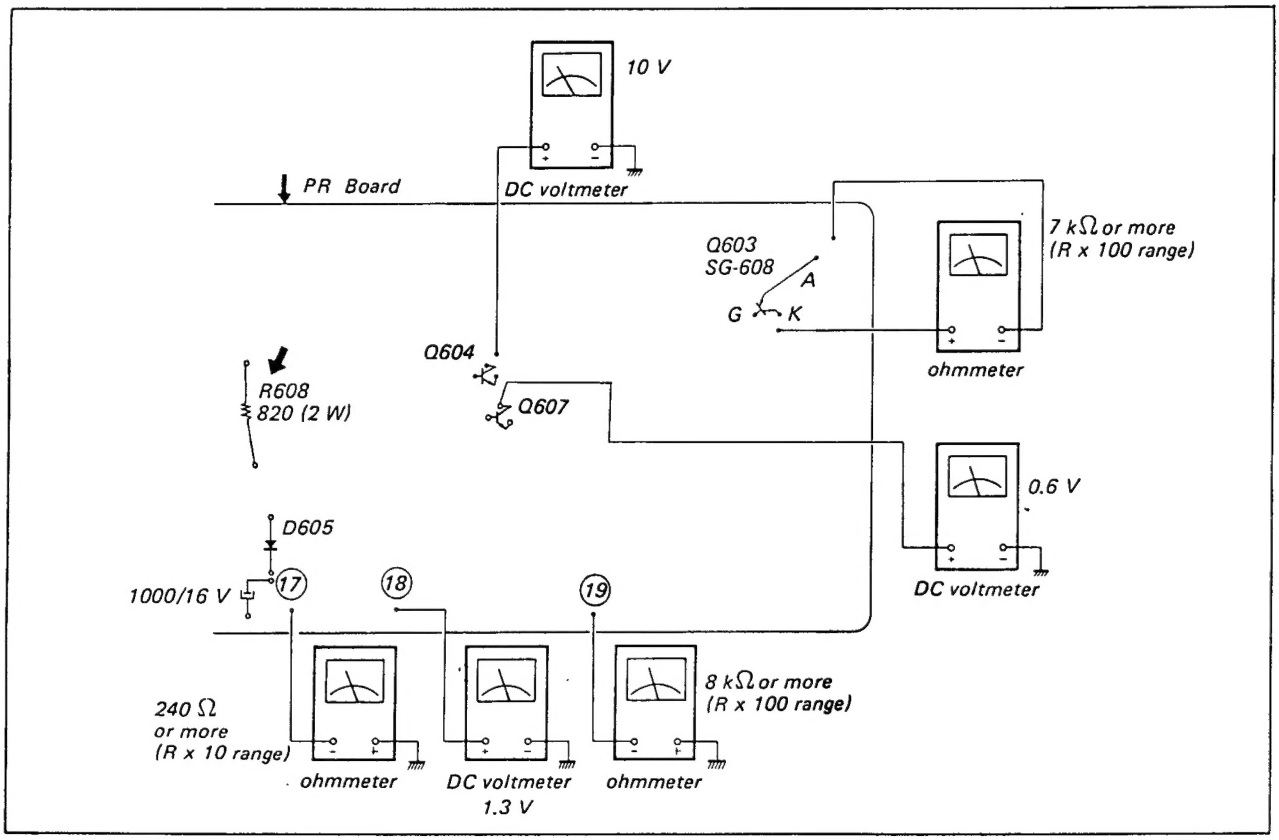


Fig. 1-1 (a). Check points on PR board

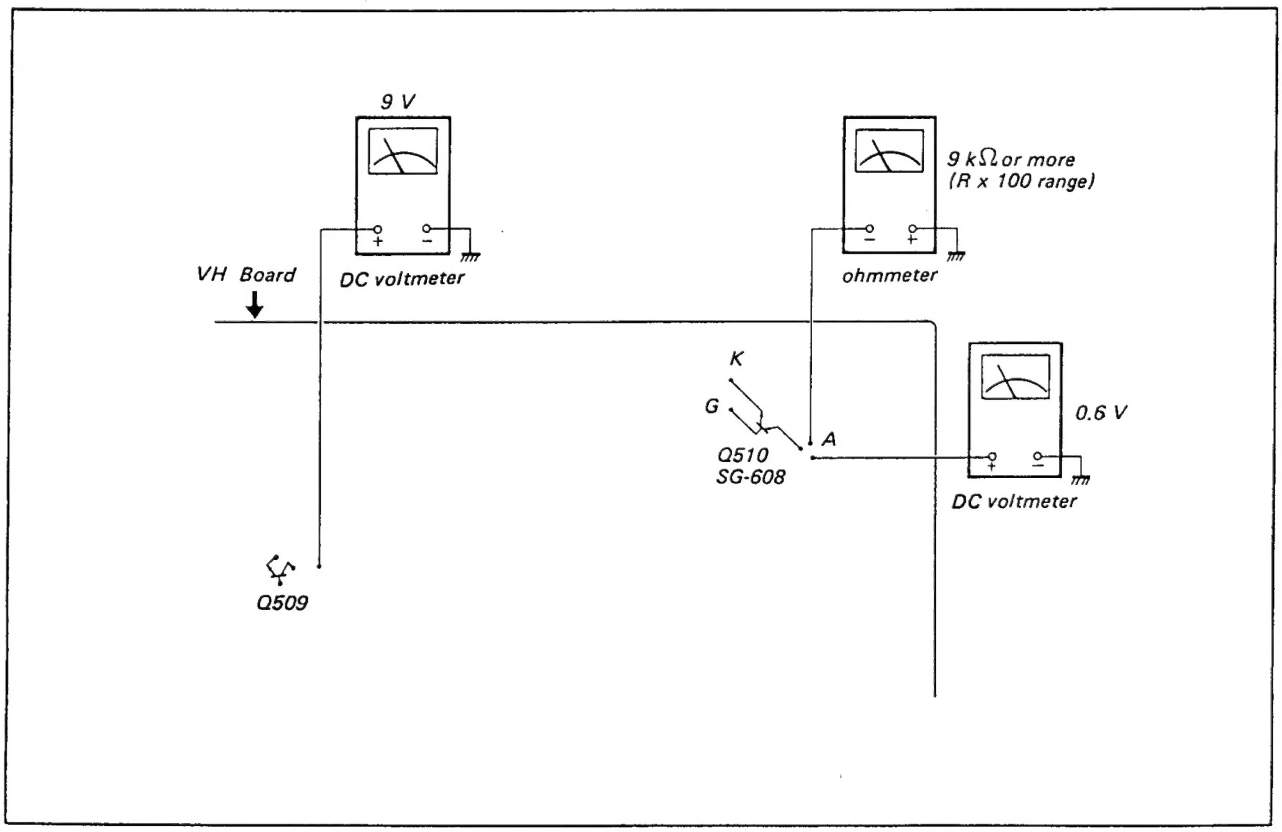
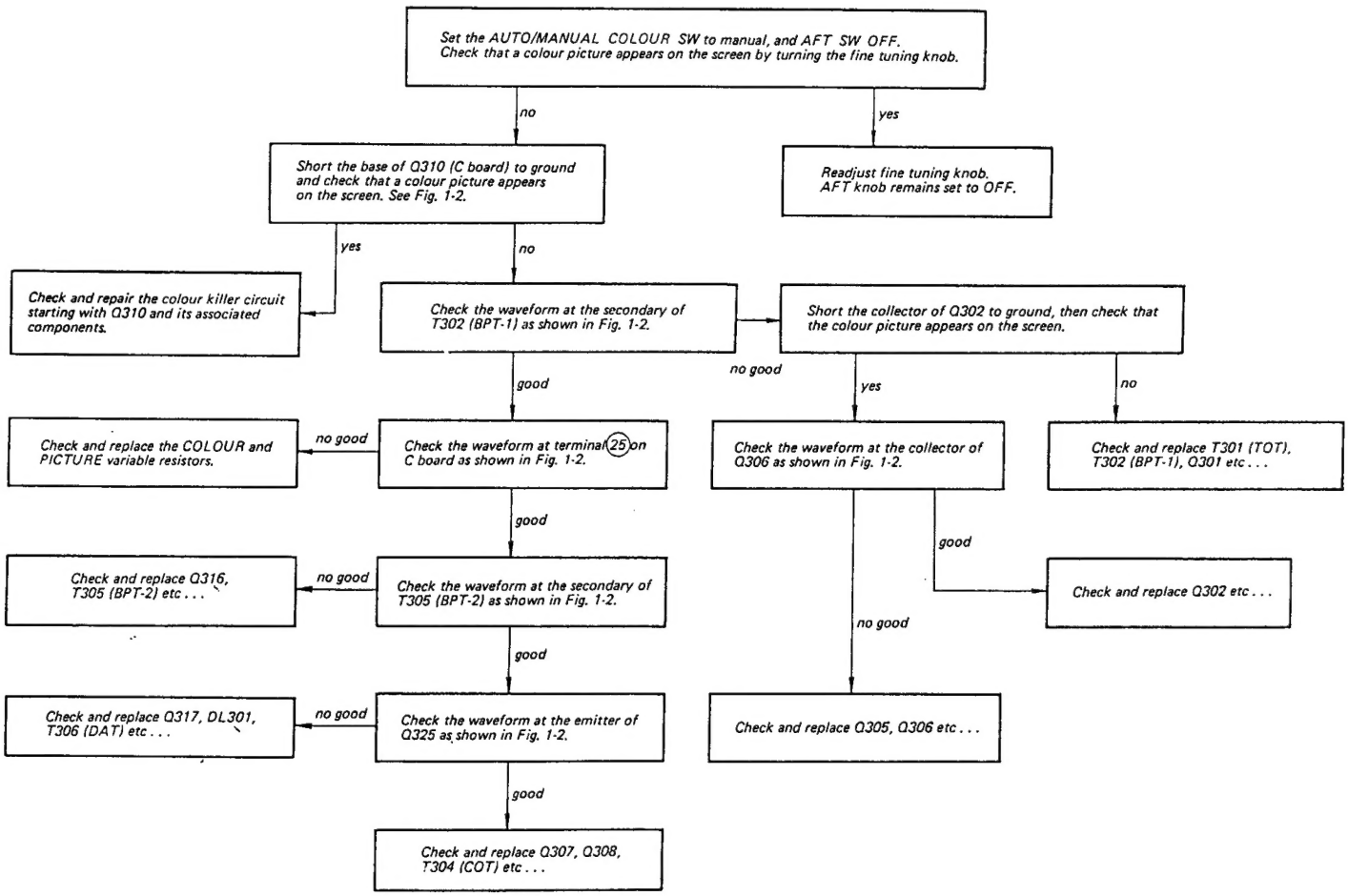


Fig. 1-1 (b). Check points on VH board

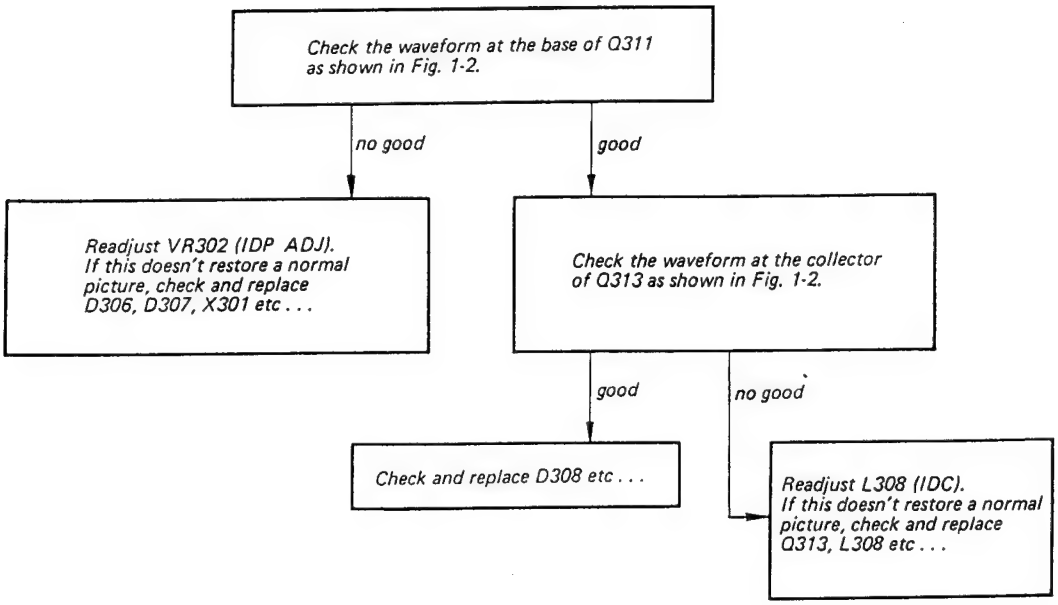
[No Colour]

Note: Before checking the colour circuit, make sure that the COLOUR control is not set to minimum.



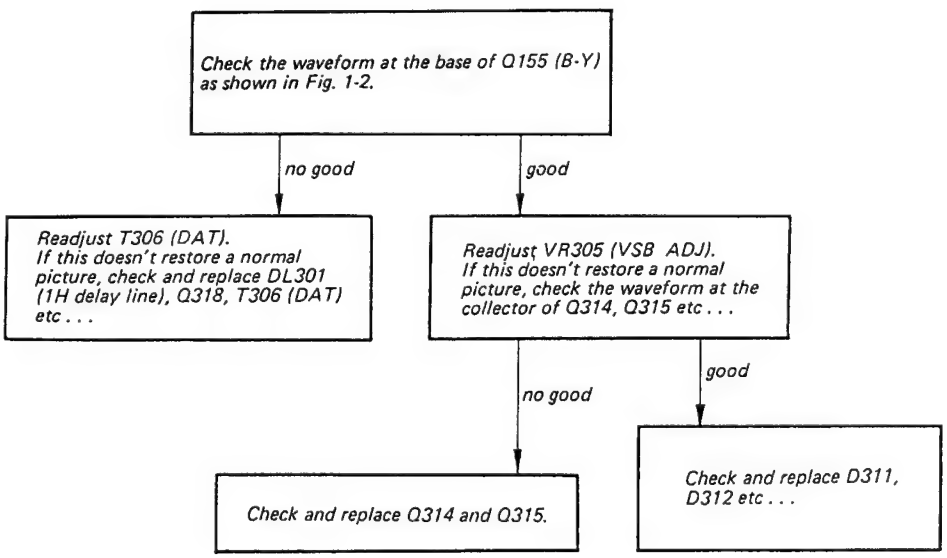
[Hue Variation]

This symptom is defined as **a deviation** from normal hue.



[Line Crawling or Hanover Bars]

This symptom is the effect of phase error which is observed as a line to line luminance difference.



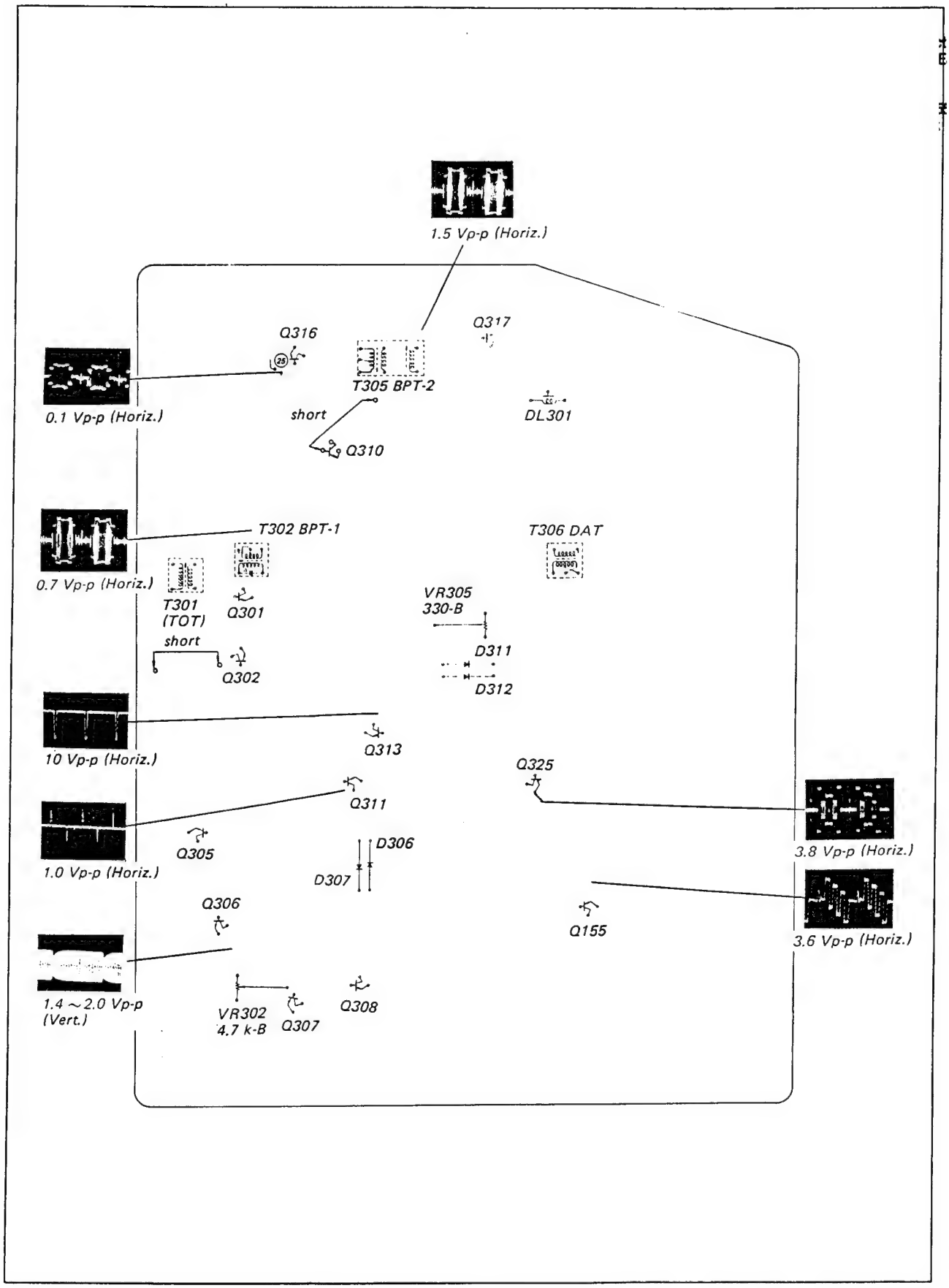


Fig. 1-2. Check points on C board

1-3. EXTERNAL VIEWS

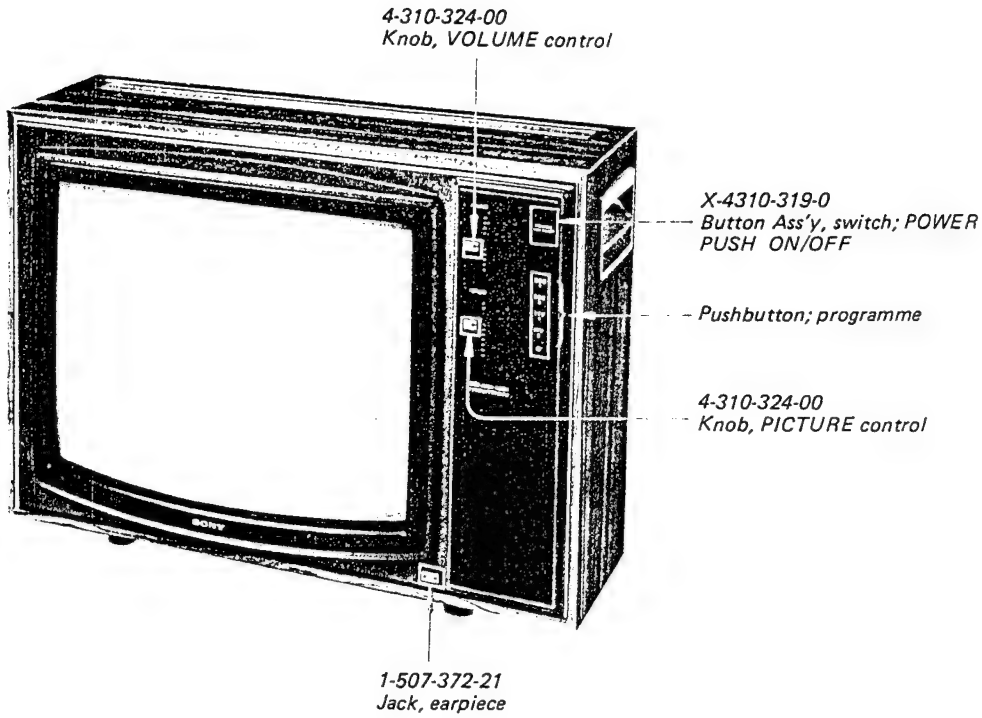


Fig. 1-3. Front View (1)

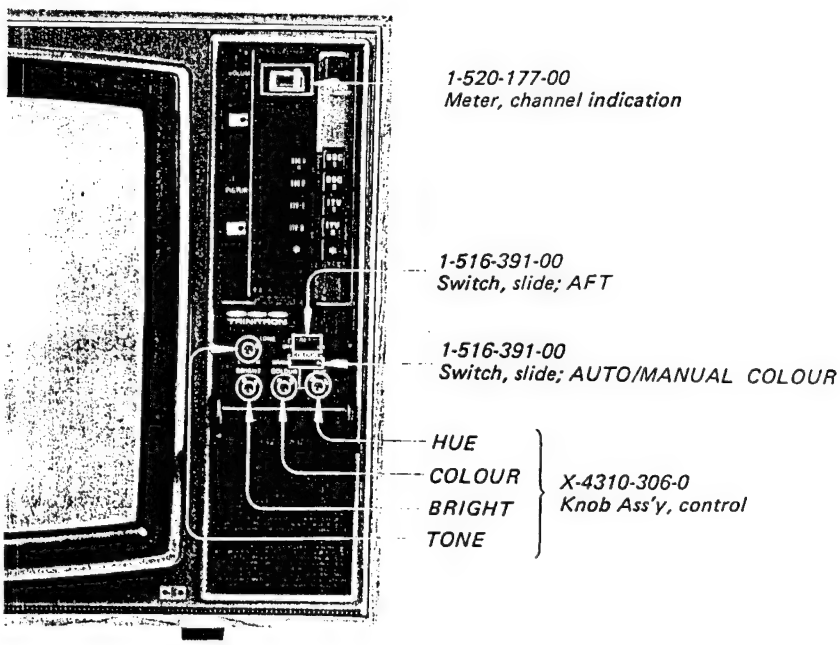


Fig. 1-4. Front View (2)

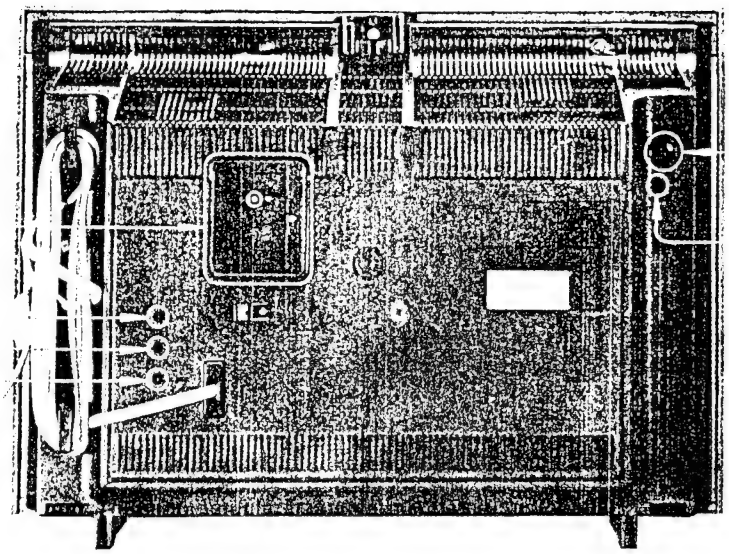


Fig. 1-5. Rear View

1-4. INTERNAL VIEWS

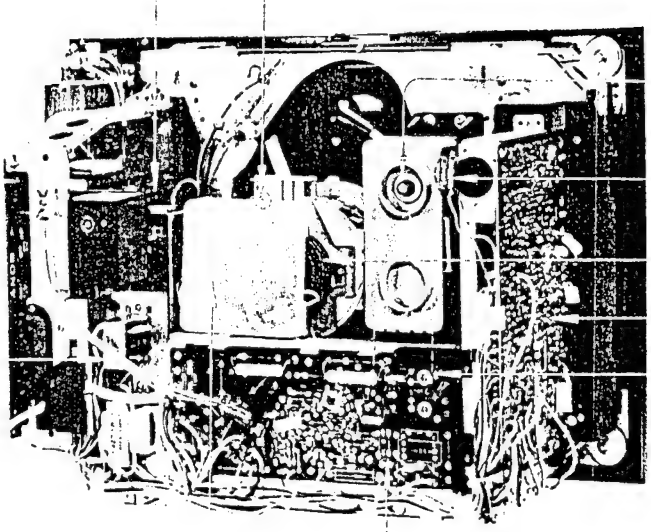


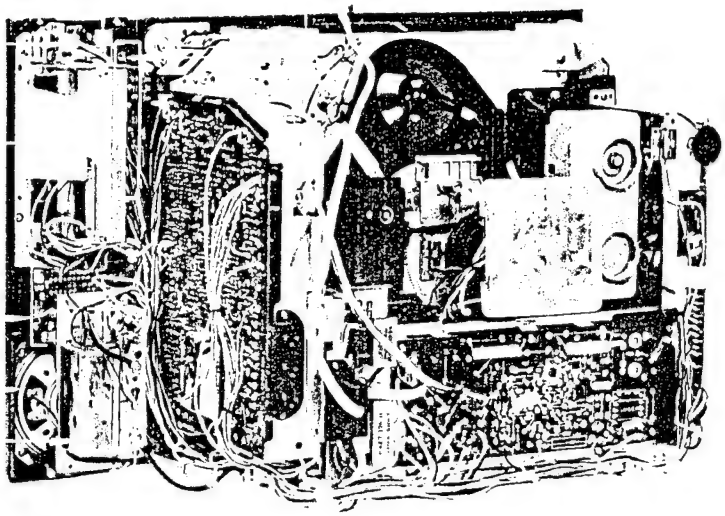
Fig. 1-6. Major Parts Location (1)

1-514-266-00
Switch, leaf (SW902)

8-983-203-65
VR Board, complete

1-516-390-00
Switch, pushbutton;
POWER PUSH ON/OFF
(SW901)

1-463-145-00
Channel Selector, (BT-922)



8-983-203-55
W Board, complete

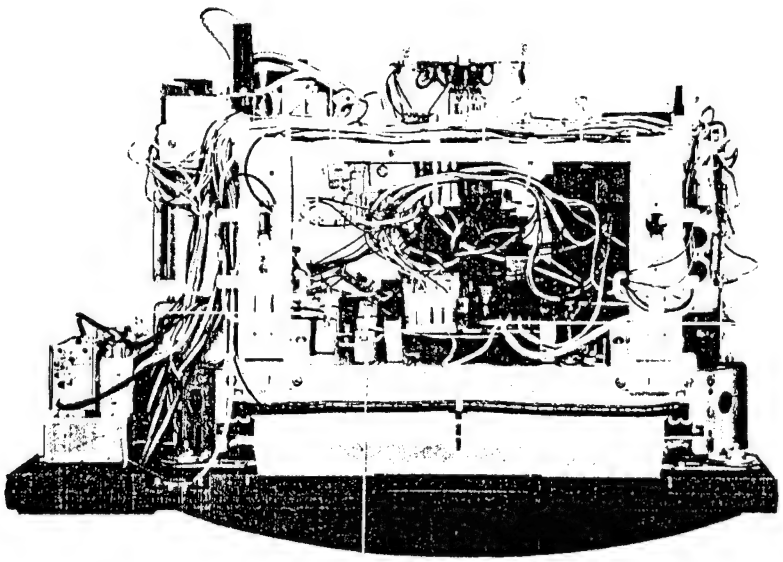
1-502-484-00
Speaker, 8 ohms

8-983-506-35
UIF Amp Ass'y

1-463-141-00
UHF Tuner (BT-871)

Fig. 1-7. Major Parts Location (2)

8-983-188-95
ETC Board, complete



1-217-518-11
6.8 Ω, 20 W
cement coated resistor
(R901)

8-983-203-75
NA Board, complete

1-217-182-11
10 Ω, 20 W
cement coated resistor
(R902)

Fig. 1-8. Major Parts Location (3)

SECTION 2
DISASSEMBLY AND REPLACEMENT

Note: All screws in this set are Phillips type (cross recess type) unless otherwise noted.

2-1. CABINET REMOVAL

Circled numbers indicate sequence.

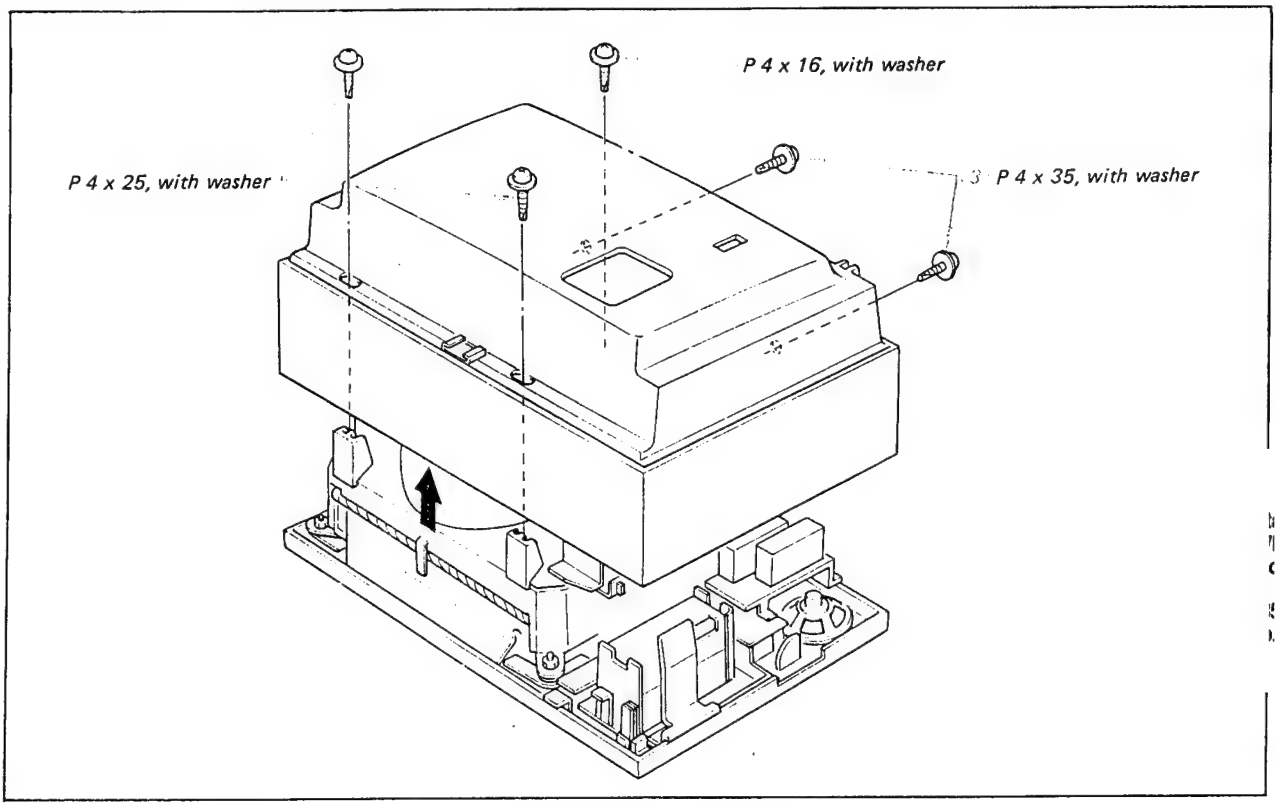


Fig. 2-1. Cabinet removal

2-2. PR BOARD REMOVAL

Remove cabinet as described in 2-1, and then proceed to the following steps.
Circled numbers indicate sequence.

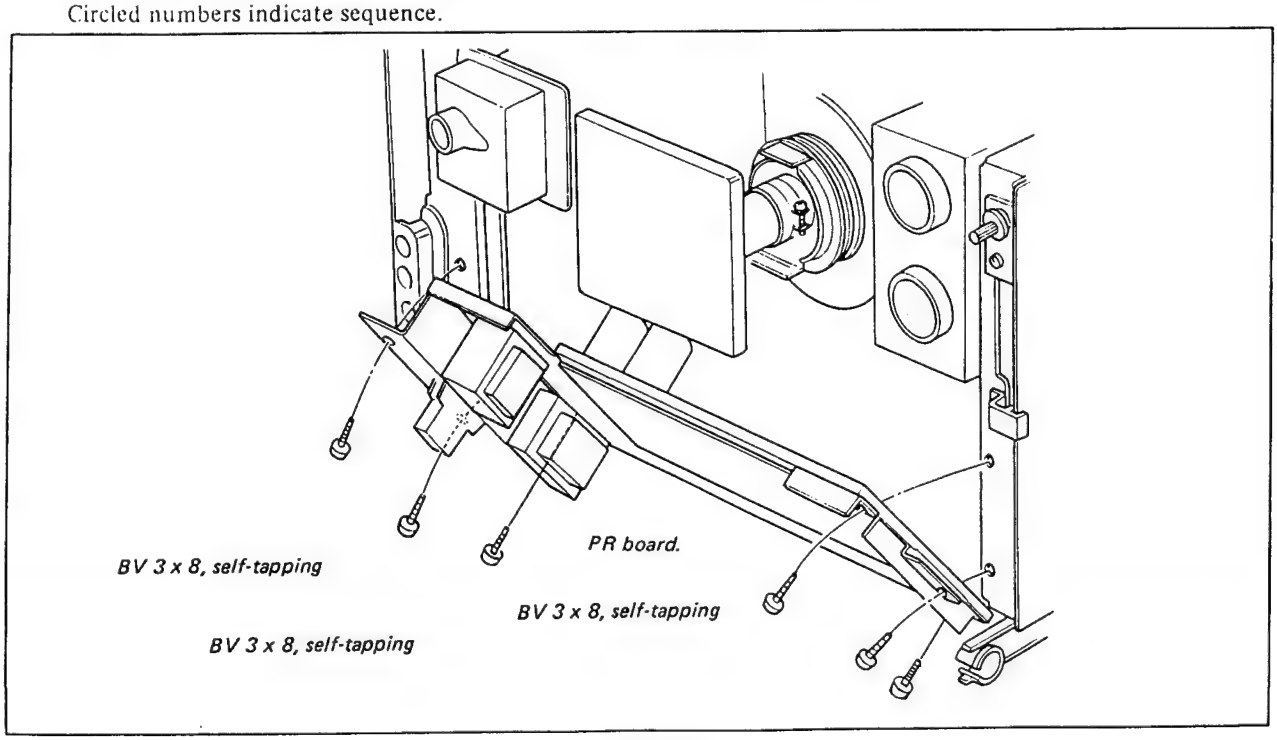


Fig. 2-2. PR board removal

2-3. VH BOARD REMOVAL

Remove cabinet as described in 2-1, and then proceed to the following steps.
Circled numbers indicate sequence.

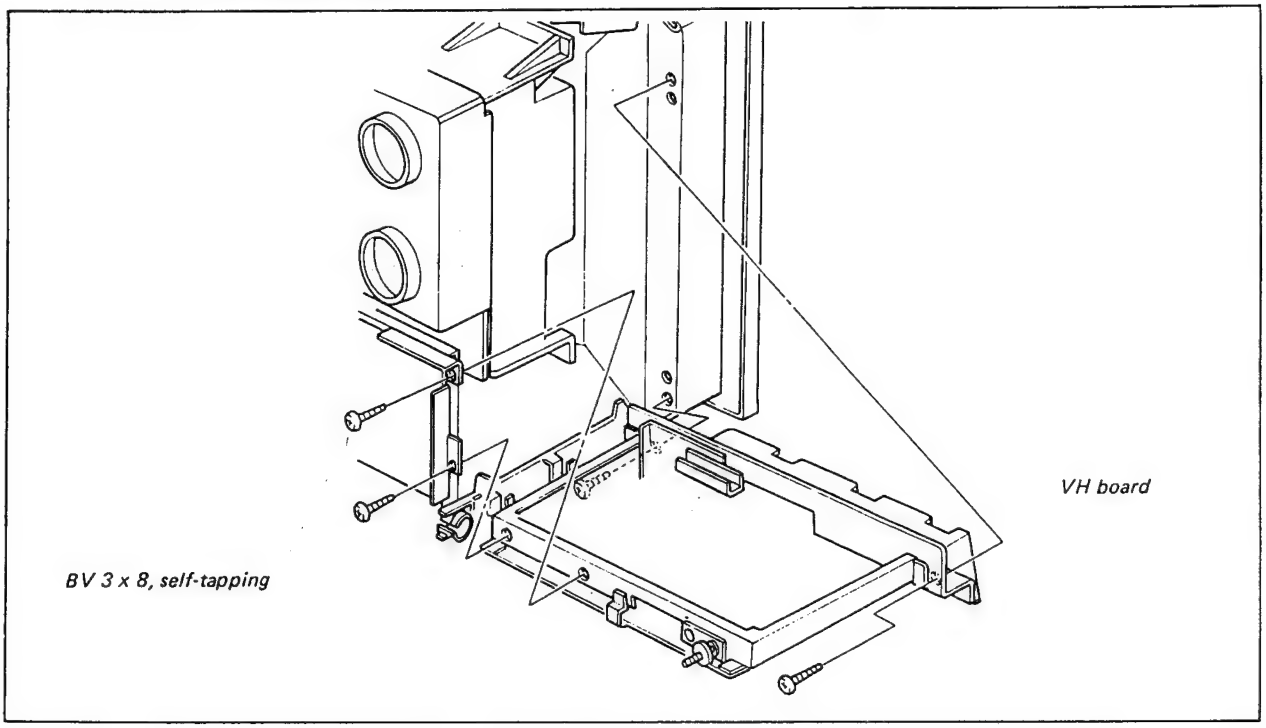


Fig. 2-3. VH board removal

2-4. C AND S BOARDS REMOVAL

Remove cabinet as described in 2-1, and then proceed to the following steps.
Circled numbers indicate sequence.

To remove C board, proceed to Steps to .
To remove S board, proceed to Steps to .

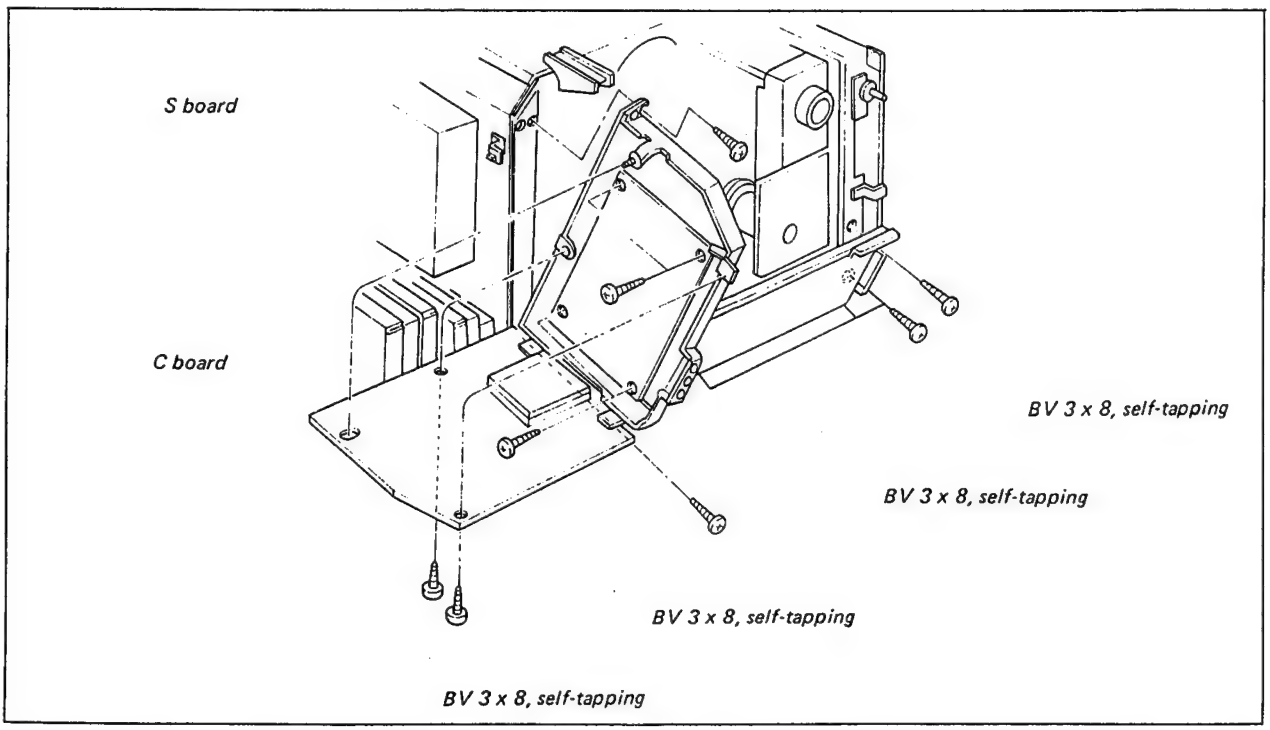


Fig. 2-4. C and S boards removal

2-5. PICTURE TUBE REMOVAL

Remove cabinet as described in 2-1, and then proceed to the following steps.
Circled numbers indicate sequence.

Note: After installing a new picture tube proceed to SECTION 3 SETUP ADJUSTMENT.

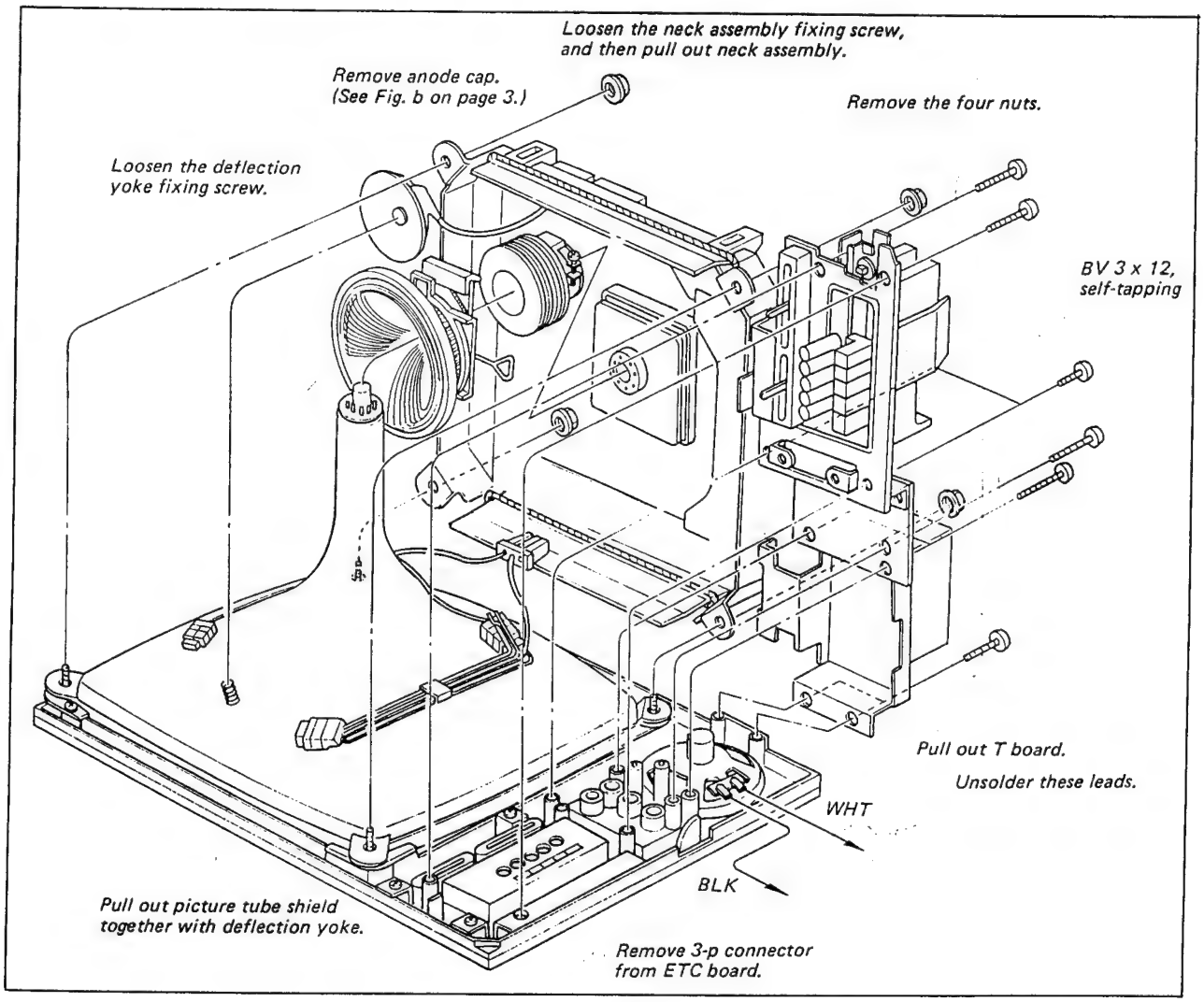


Fig. 2-5. Picture tube removal

2-6. SPEAKER REMOVAL

Remove cabinet as described in 2-1, and then proceed to the following steps.
Circled numbers indicate sequence.

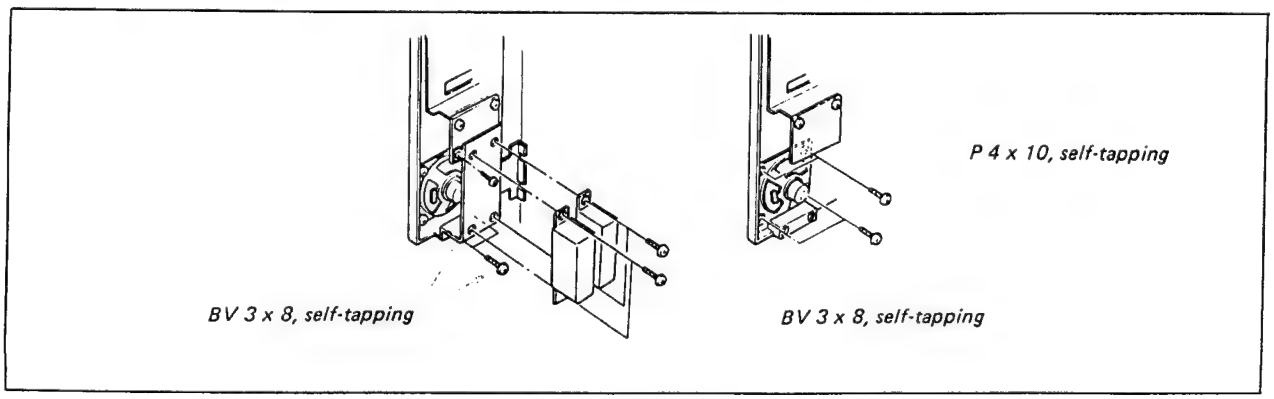


Fig. 2-6. Speaker removal

SECTION 3

SETUP ADJUSTMENTS

CAUTION

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

Perform the adjustments in following order:

1. Beam landing adjustment
2. Convergence adjustment
3. White Balance Adjustment

Note: Test Equipment Required:
1. Colour-bar/pattern generator
2. Microscope
3. Degausser

3-1. BEAM LANDING ADJUSTMENTS

Beam landing adjustments ensure correct landing of the three beams on their designated phosphor stripes. Incorrect beam landing results in colour contamination (a predominant hue) in those particular areas of the screen.

Preparation:

Referring to Fig. 3-1, perform the procedures in this order.

1. Loosen the deflection yoke fixing screw.
2. Slide the deflection yoke, then remove the three rubber spacers (wedge-shaped).
3. Have the inner and outer gear of the purity magnet coincide by turning the purity control knob as shown.
4. Slide the deflection yoke forward as far as it will go against the funnel of the picture tube.
5. Place the neck assembly into the position as shown.

Note: Perform these procedures after three minutes warm up.

Procedure: (Refer to Fig. 3-1)

1. Turn on the power switch, then set the controls as follows:
   - input signal . . . . . cross-hatch pattern from a colour-bar/pattern generator
   - BRIGHT control. . fully clockwise
   - PICTURE control . fully upward
   - AFT switch . . . . . ON (Presetting box lid should be closed)
2. Degauss the entire screen with a degausser.

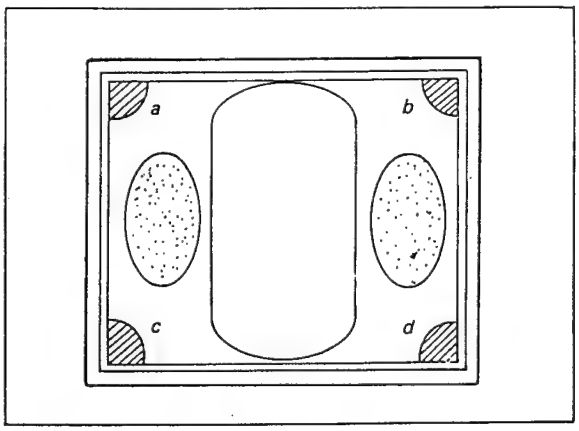


Fig. 3-2. Overall check and adjustment of purity

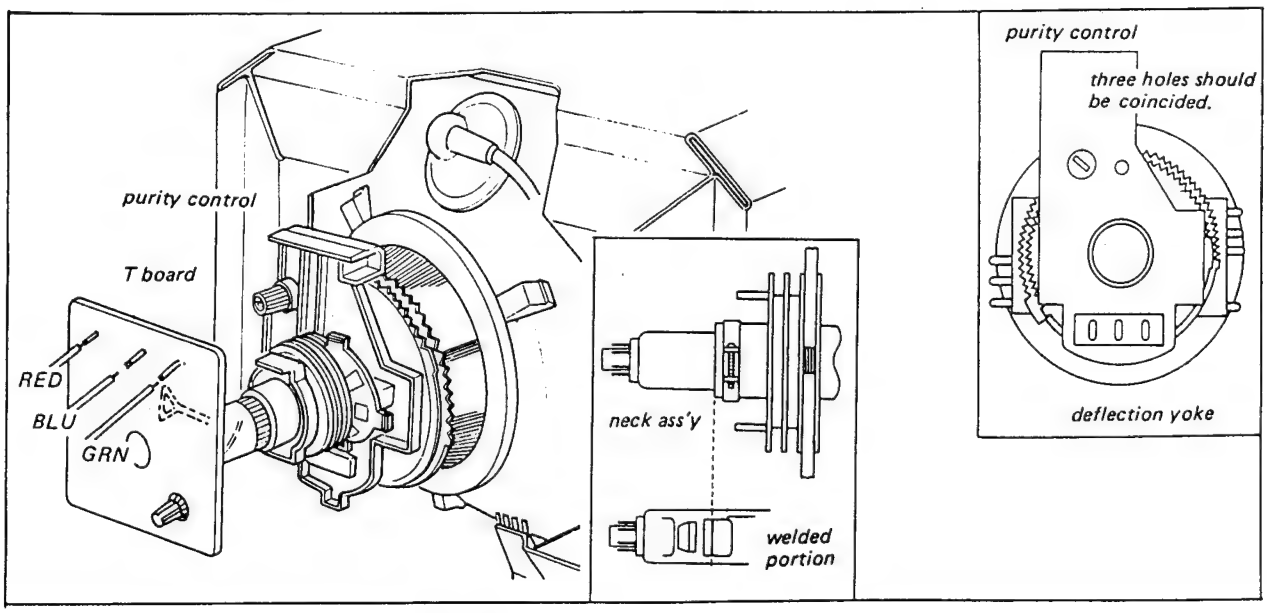


Fig. 3-1. Beam landing adjustment setup

3. Disconnect BLU and GRN leads on the T board as shown in Fig. 3-1.

4. Move the deflection yoke back and forth to adjust beam landing in the areas marked ⬭ in Fig. 3-2 using a microscope to check the results.

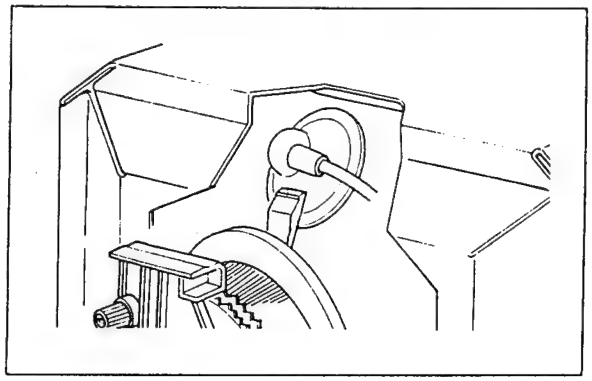


Fig. 3-3. Temporary deflection yoke positioning

5. Fix the deflection yoke temporarily and insert the rubber spacer at the top as shown in Fig. 3-3.

6. Turn the purity control knob to adjust beam landing in the area marked ▭ in Fig. 3-2.

7. Check for possible mislanding in areas marked ⬭ in Fig. 3-2 using a microscope.

8. Tighten the deflection yoke fixing screw as shown in Fig. 3-1.

9. If mislanding is observed at the corners as shown in Fig. 3-2, adjust beam landing by applying disk magnets.

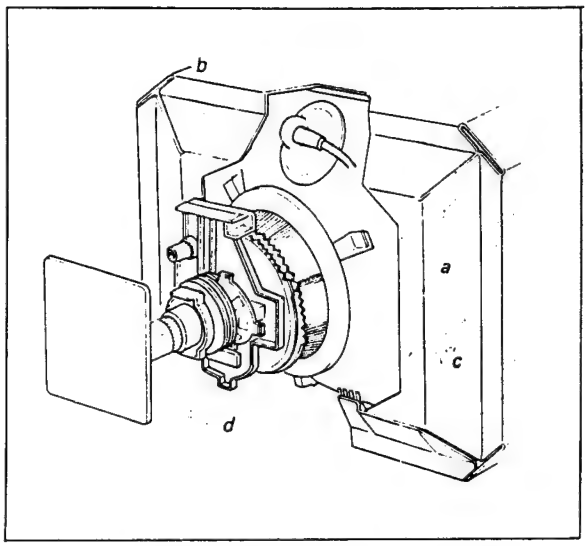


Fig. 3-4. Adjustment of corner mislanding by affixing a small disk magnet

10. Tighten the deflection yoke fixing screw, and remove the top rubber spacer inserted in step 5., then reinsert the three rubber spacers (wedge-shaped) as shown in Fig. 3-4.

11. For precise beam landing adjustment, use a 50X microscope, or equivalent as shown in Fig. 3-5 while receiving a crosshatch pattern. The microscope should be placed directly against the faceplate of the tube under observation. Correct beam-landing is obtained by back and forth movement of deflection yoke or applying a small disk magnet as shown in Fig. 3-4.

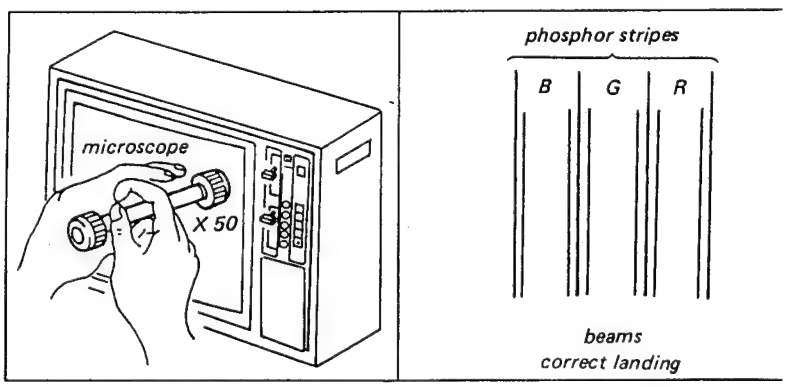


Fig. 3-5. Beam landing check by using a microscope

3-2. CONVERGENCE ADJUSTMENTS

These adjustments comprise horizontal and vertical static convergence and dynamic convergence.

Preparation:

1. Beam landing adjustment should be completed before starting the convergence adjustment.
2. The following adjustments should also be completed:
   a. Focus adjustment
   b. Horizontal size adjustment
   c. Vertical size and linearity adjustments
3. Receive the dot pattern from a colour-bar/pattern generator.
4. Set the controls as follows:
   BRIGHT control . . fully anticlockwise
   PICTURE control . fully upward
   AFT switch . . . . . ON (Presetting box lid should be closed)

Horizontal Static Convergence

This adjustment is made to converge the red, green and blue dots horizontally at the centre of the screen.

Procedure:

1. Adjust VR852 (H. STAT, See Fig. 3-6) to converge the dots horizontally at the centre of the screen as shown in Fig. 3-7.

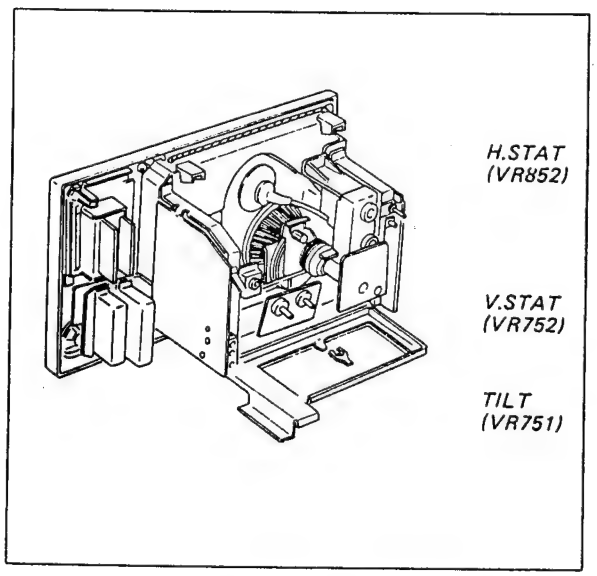


Fig. 3-6. Adjustable parts location

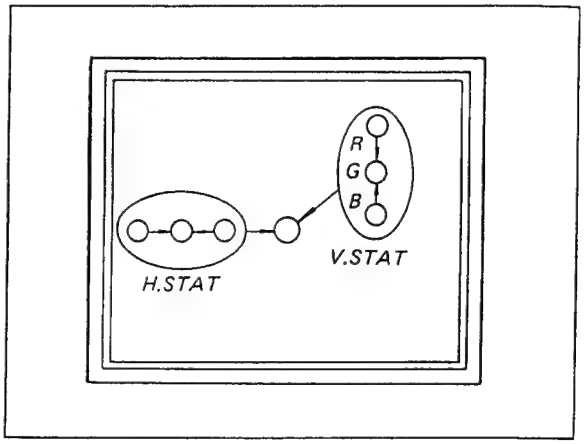


Fig. 3-7. Horizontal and vertical static convergence adjustment

2. If only the blue dots do not converge and are shifted in one direction, move the BMC magnet horizontally as indicated by the arrow marked Ⓑ, in Fig. 3-8. Note that after moving the BMC magnet, beam landing adjustment should be performed.

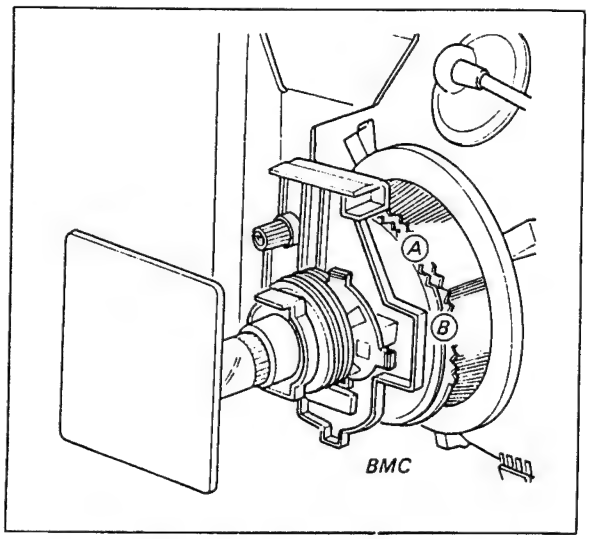


Fig. 3-8. BMC magnet adjustment

Vertical Static Convergence

This adjustment is made to converge the red, green and blue dots vertically at centre of the screen.

Procedure:

1. Adjust VR752 (V. STAT, See Fig. 3-6) to converge the dots vertically as shown in Fig. 3-7.
2. If only the blue dots do not converge and are shifted in one direction, move the BMC magnet as indicated by the arrow marked Ⓐ in Fig. 3-8. Note that after moving the BMC magnet, beam landing adjustment should be performed.

Dynamic Convergence Adjustment

[*Misconvergence at Both Sides of Screen*]

Procedure:

1. Adjust VR751 (TILT, See Fig. 3-6) for best convergence at both sides as shown in Fig. 3-9. If side misconvergence persists, proceed to Step 2.
2. Try connecting Ⓐ to Ⓐ1, Ⓐ2 or Ⓐ3 on the printed pattern (one by one) of VH board (H. AMP). See Fig. 3-10. Make the bridge which gives best results permanent.

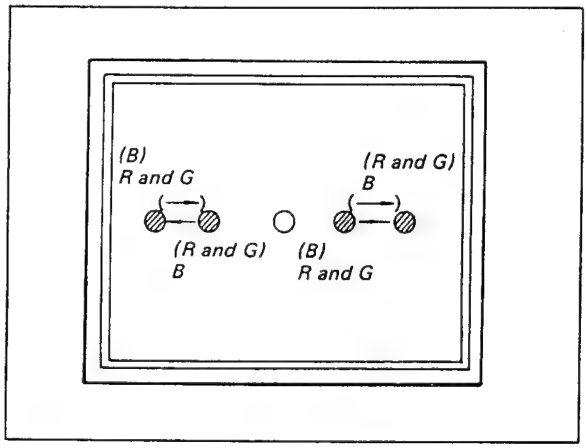


Fig. 3-9. Left and Right convergence adjustment

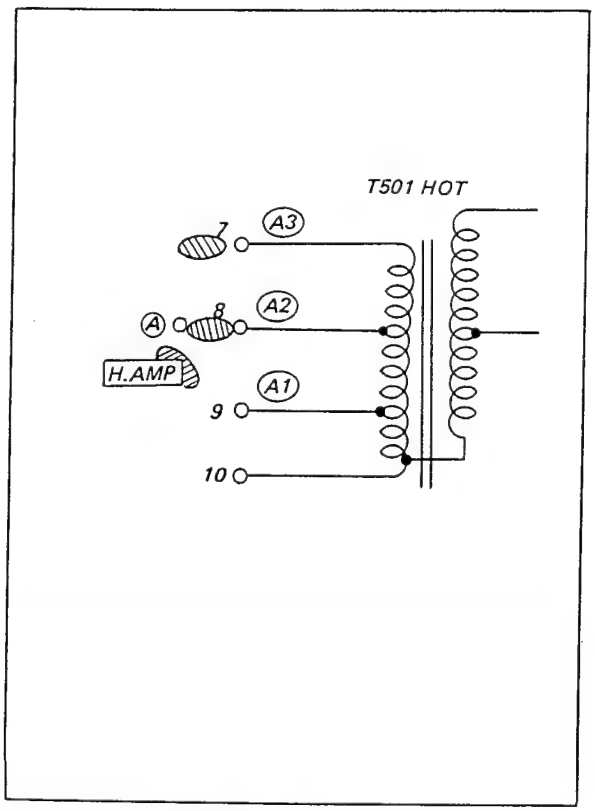


Fig. 3-10. Adjustment portion on the VH board

[*Top and Bottom Misconvergence*]

Procedure:

1. To correct misconvergence of the type shown in Fig. 3-11, try and connect the bridge on the printed pattern on VH board (V. Amp), or disconnect it. This means short-circuiting R583 10 ohms or not. See Fig. 3-12. Make the situation giving best results permanent (0 ohm or 10 ohms).
2. To eliminate misconvergence shown in Fig. 3-13, add a resistor R904 (0.33 ~ 3.3 ohm) and reconnect the leads on the neck assembly as shown in Fig. 3-14 for best convergence. This way VTC (L904B) in neck ass'y comes into action, shunted with R904, for which the exact value has to be found by trial and error.

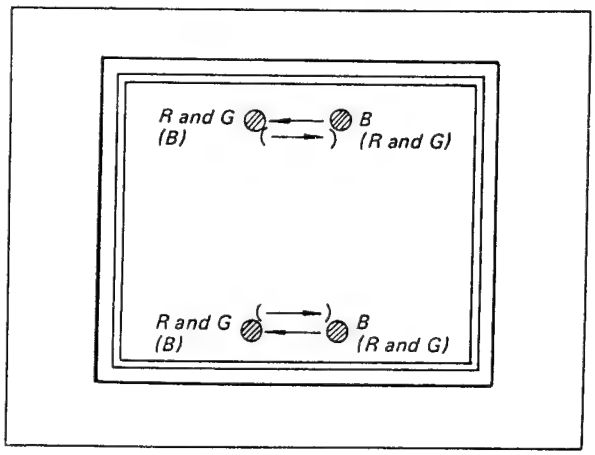


Fig. 3-11. Top and bottom convergence adjustment

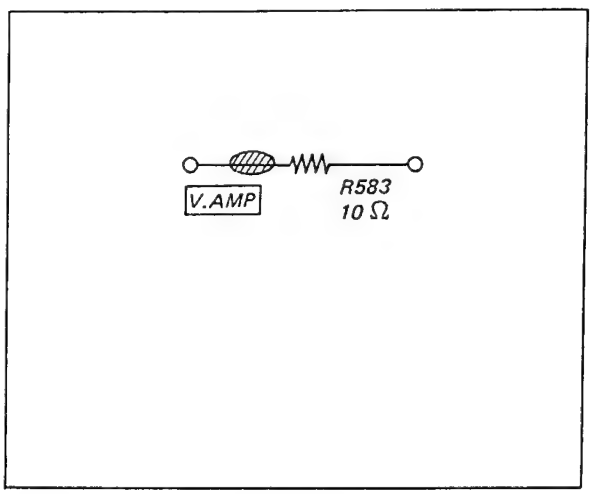


Fig. 3-12. Adjustment portion on the VH board

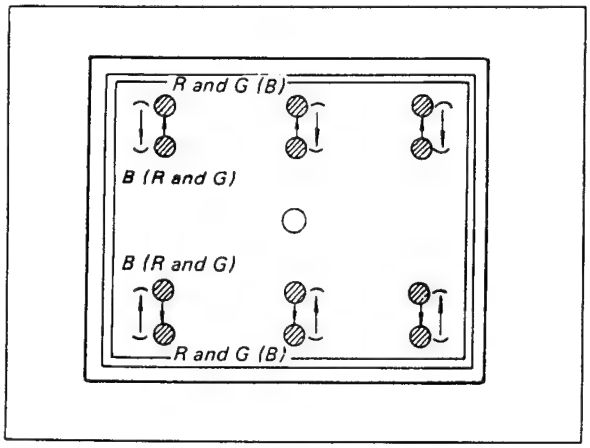


Fig. 3-13. Top and bottom convergence adjustment

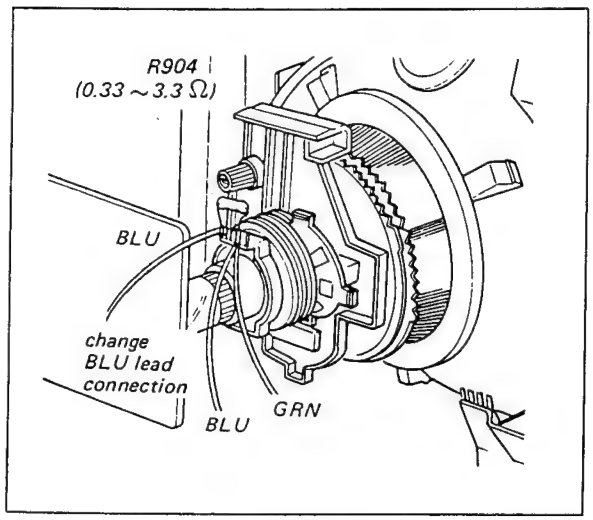


Fig. 3-14. Adjustment portion on the neck assembly

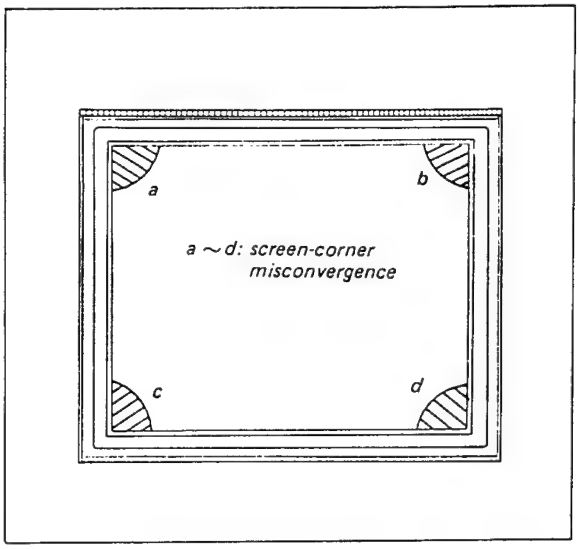


Fig. 3-15. Screen-corner convergence adjustment

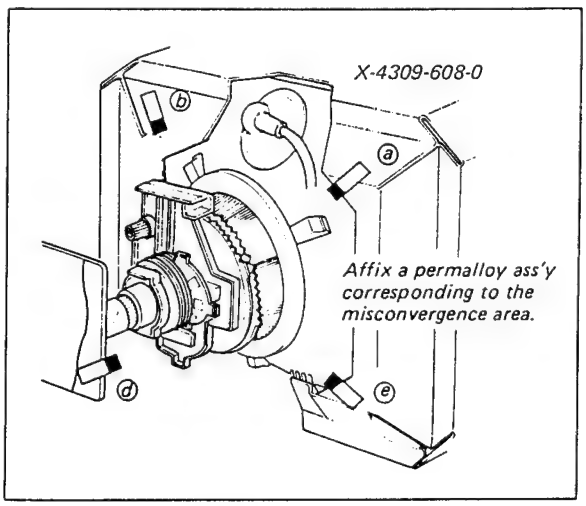


Fig. 3-16. Adjustment of corner misconvergence by affixing a permalloy assembly

Screen-corner Convergence Adjustment

This adjustment is made to correct corner misconvergence as shown in Fig. 3-15.

Procedure:

Note: Do not attempt to move the front edge of the deflection yoke to correct this kind of misconvergence.

1. Attach a permalloy assembly (Part No. X-4309-608-0) for best result with regard to the actual misconvergence as shown in Fig. 3-16.

3-3. WHITE BALANCE ADJUSTMENTS

These adjustments are made only when the white balance is incorrect or a new picture tube is installed.

Preparation:

1. Beam landing and convergence adjustments should be completed before starting the white balance adjustments.
2. Receive the crosshatch pattern from a colour-bar/ pattern generator.
3. Referring to Fig. 3-17, set the adjustment controls as follows:

   VR156, VR154 and VR152 .... mechanical centre (Red, green and blue Background Adj controls)

   VR155, VR153 and VR151 .... fully clockwise (Red, green and blue Drive Adj. controls)

Procedure: (Refer to Fig. 3-17.)

1. Turn the BRIGHT control fully anticlockwise and PICTURE control fully down.
2. Turn VR704 (G2 ADJ) slowly to obtain a crosshatch that is faintly visible.

CAUTION

Never turn VR704 (G2 ADJ) if picture tube or T board has not been replaced.

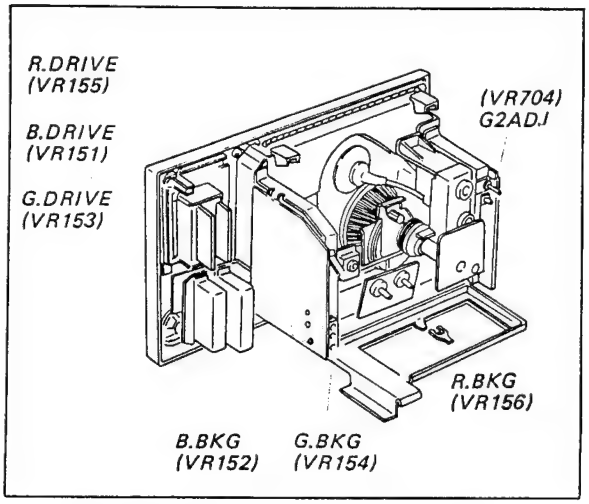


Fig. 3-17. Adjustable parts location

3. Adjust the Background Adj. controls for best white balance (neutral gray at faintly visible screenlight).
4. Turn the BRIGHT control fully clockwise and PICTURE control fully upward, then adjust the R, G, B Drive Adj. controls for best white balance.
5. Repeat the above steps several times, until no further improvement is obtained.

SECTION 4

CIRCUIT ADJUSTMENTS

4-1. TEST EQUIPMENT REQUIRED

1. Oscilloscope
2. DC Voltmeter or VOM
3. Colour-bar/pattern generator

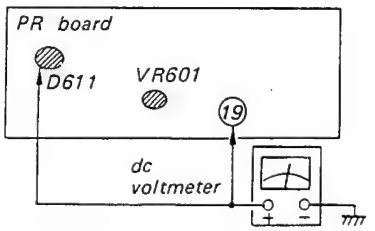
4-2. CONTROL SETTINGS FOR CHECKS AND ADJUSTMENTS

Controls and switches should be set as follows when performing checks and adjustments unless otherwise shown.

PICTURE, BRIGHT
COLOUR, HUE
controls . . . . . set for best picture
VER control . . . . . set for stable picture
AFT Switch . . . . . ON (Presetting box lid should be closed)
AUTO/MANUAL COLOUR
switch . . . . . AUTO

4-3. B+ ADJUSTMENT

Note: Adjust B+ before making any other adjustment.

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
130 V line Adjustment	1. Receive an off-the-air signal. 2. Verify ac power to be 240 V (Check 300 V at the cathode of D611 on PR board as shown). 3. Connect a DC voltmeter to terminal (19) on PR board.	VR601 (on PR board)	1. Adjust VR601 for 130 V as shown. 

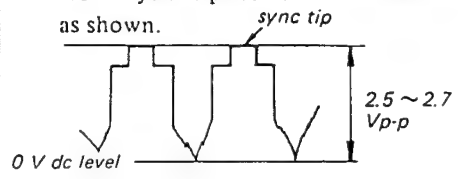
4-4. TUNER AGC ADJUSTMENT

Note: This adjustment should be made when noise (snow) is observed on all channels. If noise (snow) is persisting, check and replace the tuner.

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
UHF Tuner AGC Adjustment	1. Receive an off-the-air signal on a high numbered UHF channel.	VR201 (on S board See Fig. 4-1)	1. Adjust VR201 so that noise (snow) just disappears. 2. Check all UHF channels for noise-free reception.

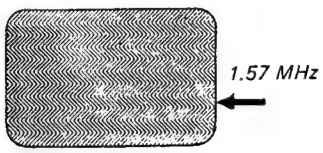
4-5. DETECTOR OUTPUT ADJUSTMENT

Note: This adjustment should be made when the picture becomes scrambled or when only noise (snow) is observed and no picture.

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
Detector Output Adjustment	1. Receive an off-the-air signal. 2. Connect an oscilloscope to terminal ③ on S board as shown in Fig. 4-1.	VR204 (on S board See Fig. 4-1)	1. Adjust VR204 for 2.5 ~ 2.7 Vp-p from sync tip to 0 V dc level as shown. 

4-6. TUNER AFT ADJUSTMENT

Note: This adjustment should be made if the AFT circuit does not operate properly. This is recognized by observing an off-the-air signal.

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
AFT Adjustment	1. Receive an off-the-air signal. 2. Open the channel presetting box lid. This stops AFT operation. 3. Turn the tuning knob clockwise to produce 1.57 MHz beat on the screen as shown. 	L213 (AFT-T3) (on S board See Fig. 4-1)	1. Set the tuning knob to the point where 1.57 MHz beat just disappears by turning it anticlockwise slowly. 2. Close the channel presetting box lid, which automatically turns on AFT. 3. Set L213 to the position where 1.57 MHz beat just disappears.

4-7. SOUND I-F ADJUSTMENT

Note: This adjustment should be made if SIF (SOUND I-F) transformer is replaced or when buzzing is heard.

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
Sound I-F Adjustment	1. Receive an off-the-air signal. 2. Adjust VR322 (VOLUME control) to hear a faint sound.	T214 (SIFT-2) T213 (SIFT-1) (on S board See Fig. 4-1)	1. Adjust T214 to obtain maximum and clear sound. 2. Connect a 100 k ohm-B rheostat in parallel with resistor R240 (22 k ohms) as shown in Fig. 4-1. 3. Set the 100 k ohm-B rheostat so that the picture just disappears. 4. Adjust T213 to obtain maximum and clear sound. 5. Check that no buzzing is heard from the speaker.

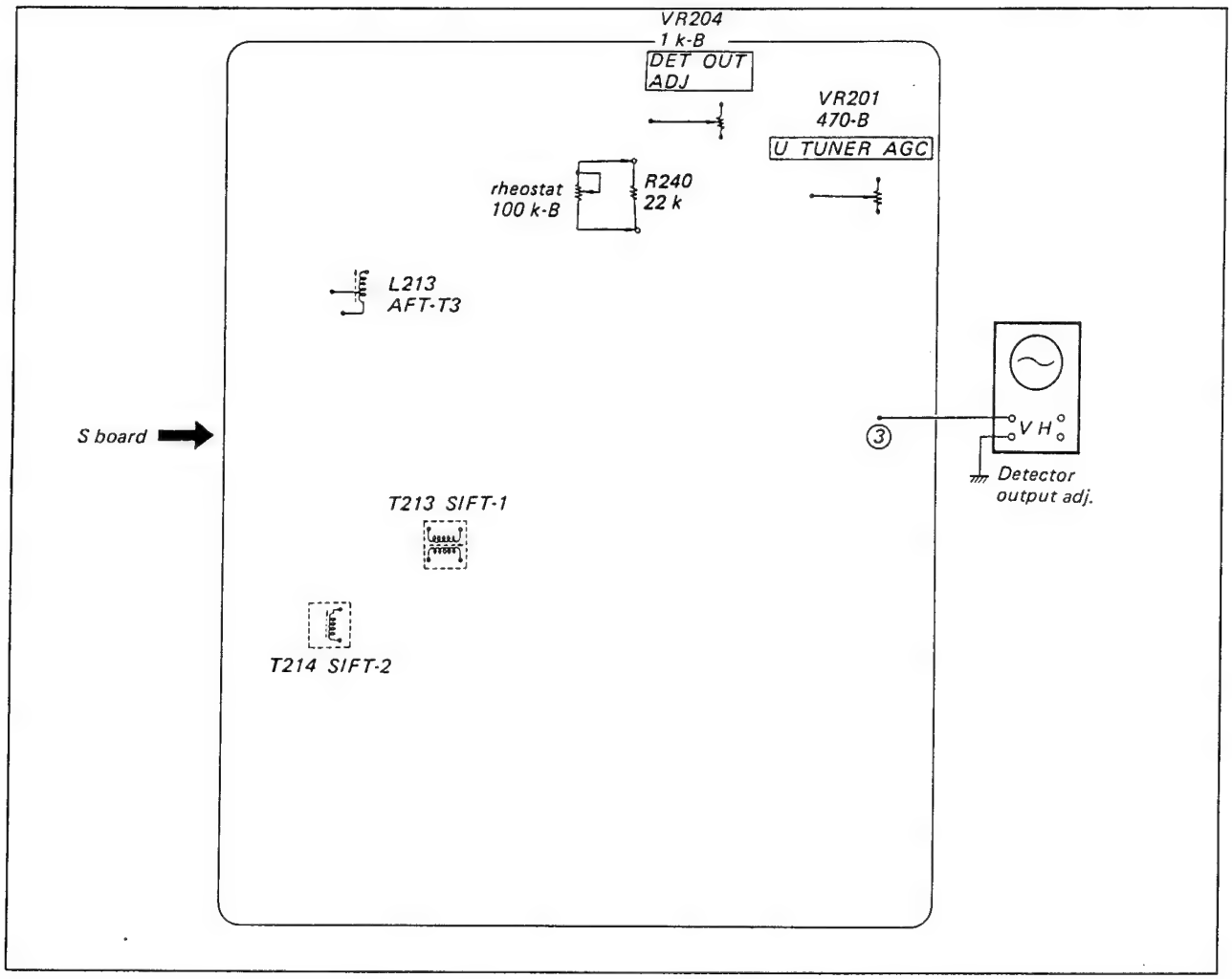


Fig. 4-1. Adjustment setup and parts location

4-8. DEFLECTION CIRCUIT ADJUSTMENT

Note: This adjustment should be made if display on the screen appears to be defective due to deflection-or focus-circuit trouble.

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
Horizontal Frequency Adjustment	1. Receive an off-the-air signal. 2. Short lead number ⑨ of IC501 to ground through a capacitor (1 μF/ 50 V) as shown in Fig. 4-2.	VR504 (H. FREQ.) (on VH board, See Fig. 4-2)	1. Adjust VR504 to obtain a single upright picture that "floats" from side to side. If a single upright picture cannot be obtained, proceed to the next step. 2. Note the settings that produce equal numbers of slanting bars and set VR504 in the centre between these settings. 3. Remove the capacitor (1 μF/50 V) from the IC. 4. Perform the H. CENT adjustment if necessary.

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
Vertical Output Bias (Q503, Q504) Adjustment	1. Connect a DC voltmeter between the emitter of Q504 and ground as shown in Fig. 4-2.	VR505 (V. BIAS) (on VH board, See Fig. 4-2)	1. Adjust VR505 for 0.9 V reading. 2. Check that V. SIZE and V. LIN are correctly adjusted.
Vertical Size and Linearity Adjustments	1. Receive an off-the-air signal.	VR502 (V. LIN) VR503 (V. SIZE) (on VH board, See Fig. 4-2)	1. Adjust VR502 and VR503 for best linearity and size.

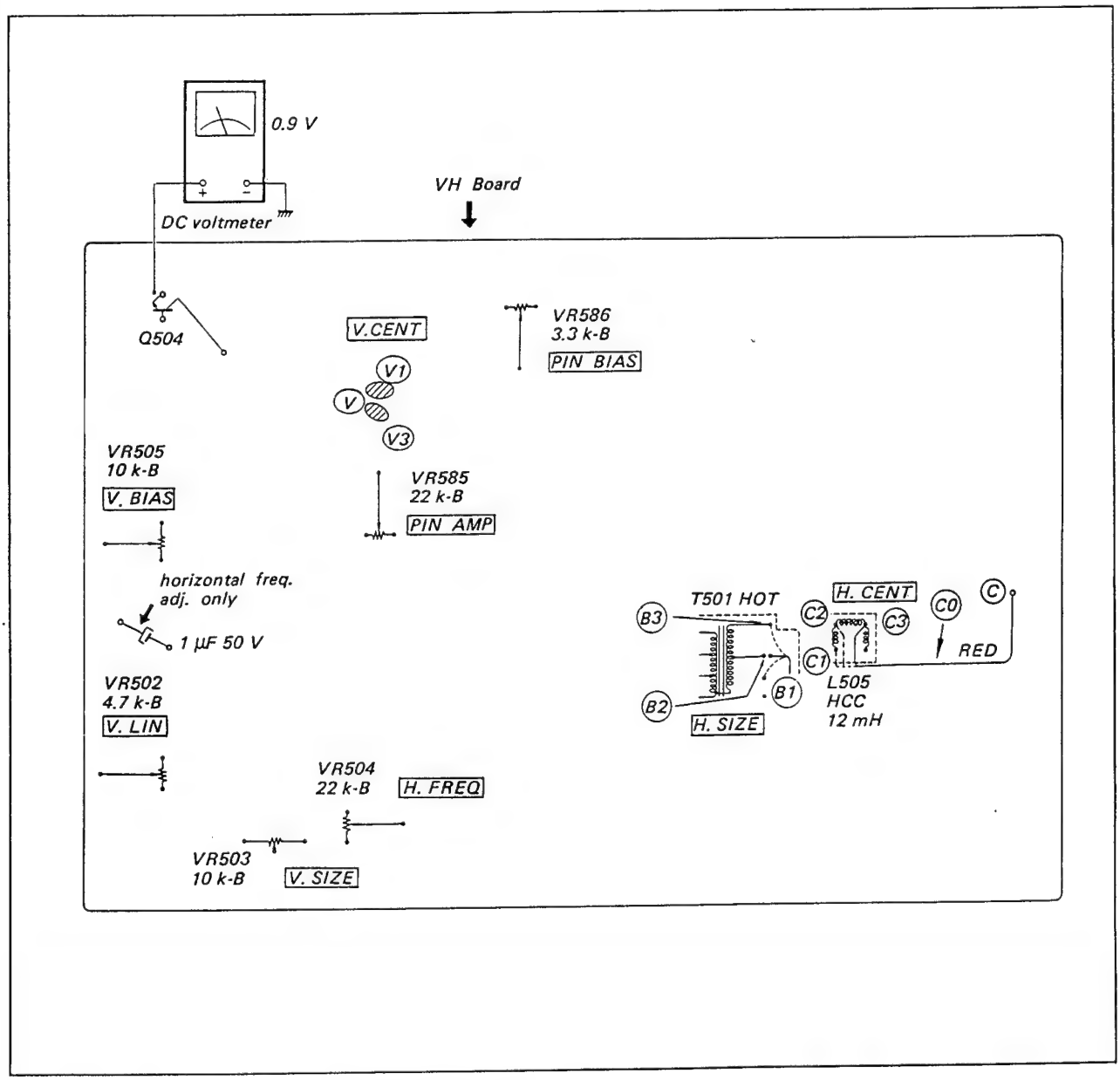


Fig. 4-2. Adjustment setup and parts location

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
Vertical Centring Adjustment	1. Receive a test pattern signal.	V. CENT (on VH board, See Fig. 4-2)	1. Try connecting Ⓥ to Ⓥ1 or Ⓥ3 on the printed pattern (one by one) to find out which bridge yields best V. centring and make that bridge permanent.
Horizontal Centring Adjustment	1. Receive a test pattern signal.	H. CENT (on VH board, See Fig. 4-2)	1. Try connecting Ⓒ to Ⓒ1, Ⓒ2 or Ⓒ3 on the printed pattern (one by one) to find out which bridge yields best H. centring, and make that bridge permanent.
Horizontal Size Adjustment	1. Receive a test pattern signal.	H. SIZE (on VH board, See Fig. 4-2)	1. Try connecting Ⓑ to Ⓑ1, Ⓑ2 or Ⓑ3 on the printed pattern (one by one) to find the connection which makes the Horiz. diameter of the outer circle on the test pattern equal to the width of the screen. Make that connection permanent.
Focus Adjustment	1. Receive an off-the-air signal.	FOCUS (on T board, See Fig. 4-3)	1. Try connecting each one of the four possible focus adjustment bridges one by one, to find the one that yields best focus and make it permanent.
Pincushion Correction Adjustment	1. Receive the crosshatch signal from a colour-bar/pattern generator.	VR585 (PIN AMP) VR586 (PIN BIAS) (on VH board, See Fig. 4-2)	1. Adjust VR585 for minimum pincushion distortion as shown in Fig. 4-4. 2. Adjust VR586 to make the vertical lines straight at both sides of the screen.

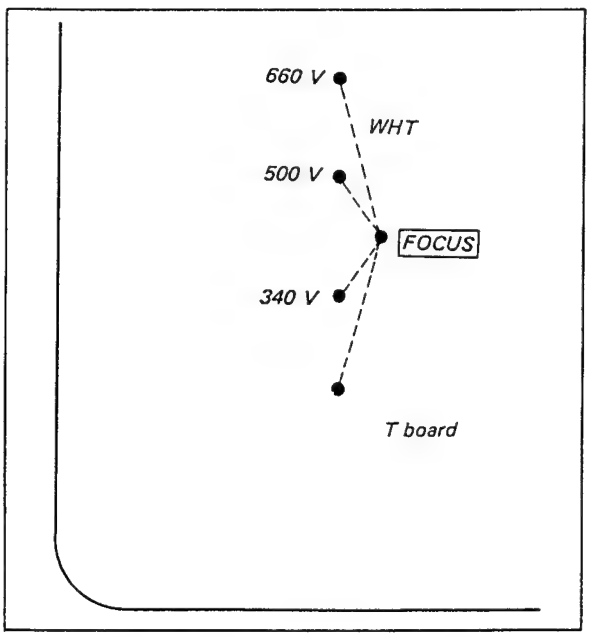


Fig. 4-3. Focus adjustment

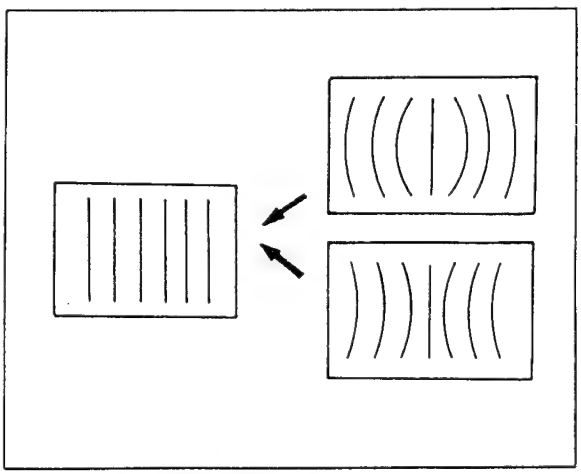
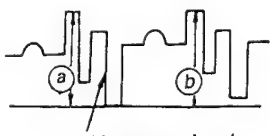


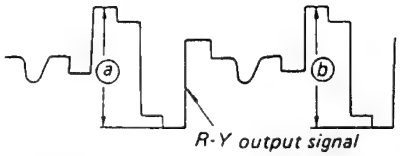
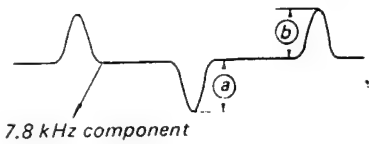
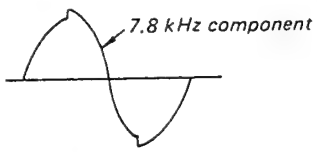
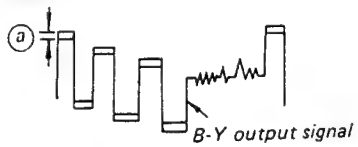
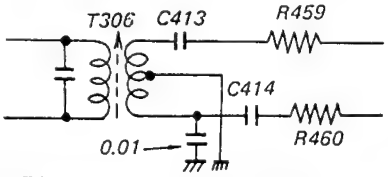
Fig. 4-4. Pincushion correction

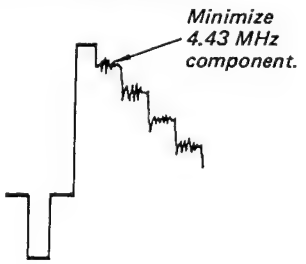
4-9. COLOUR CIRCUIT ADJUSTMENTS

Note: These adjustments should be made in order if malfunctions related to colour circuits occur. Major malfunctions are as follows:

1. No colour.
2. Colour saturation can not be obtained by colour control.
3. Correct flesh tone can not be obtained by HUE control.

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
ACC Adjustment	1. Set AUTO/MANUAL COLOUR switch to "AUTO". 2. Receive the colour-bar signal from the colour-bar generator. 3. Connect an oscilloscope to the emitter of Q326 as shown in Fig. 4-5.	VR303 (ACC) (on C board, See Fig. 4-5)	1. Adjust VR303 for 0.8 Vp-p on the scope.  *0.8 Vp-p*
BAT and band-pass amp Adjustment (BPT)	1. Set AUTO/MANUAL COLOUR switch to "AUTO". 2. Receive the colour-bar signal from the colour-bar generator. 3. Set the COLOUR and PICTURE controls to midrange and the HUE control to optimum position. 4. Connect an oscilloscope to the emitter of Q326 as shown in Fig. 4-5.	T303 (BAT) VR303 (ACC) (on C board, See Fig. 4-5)	1. Check for 0.8 Vp-p at the emitter of Q326. Adjust VR303 (ACC) if necessary. 2. Adjust T303 (BAT) to make the ripples in the waveform minimum as shown. 
Demodulator Phase Adjustment	1. Set AUTO/MANUAL COLOUR switch to "AUTO". 2. Receive the colour-bar signal from a colour-bar generator. 3. Connect an oscilloscope to the base of Q155 as shown in Fig. 4-5.	VR301 (DMP) (on C board, See Fig. 4-5)	1. Adjust VR301 to obtain the maximum B-Y output marked ⓐ as shown.  *B-Y output signal*

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
V-AXIS SWITCHING Adjustment	1. Set AUTO/MANUAL COLOUR switch to "AUTO". 2. Receive the colour-bar signal from a colour-bar generator. 3. Connect an oscilloscope to the base of Q157 as shown in Fig. 4-5.	VR305 (VSB) (on C board, See Fig. 4-5)	1. Adjust VR305 to obtain an R-Y output level ⓑ equal to the output level obtained in ⓐ as shown. 
Identification Phase and Coil Adjustments	1. Set AUTO/MANUAL COLOUR switch to "AUTO". 2. Check for Demodulator Phase adjustment VR301 (DMP) is already completed. 3. Receive the colour-bar signal from a colour-bar generator. 4. Connect an oscilloscope to the base of Q311 as shown in Fig. 4-5.	VR302 (IDP) L308 (IDC) (on C board, See Fig. 4-5)	1. Adjust VR302 to obtain equal 7.8 kHz component levels in ⓐ and ⓑ as shown.  2. Connect an oscilloscope to the collector of Q311 and adjust L308 to obtain maximum 7.8 kHz components as shown. 
Summation Matrix Balance (SMB) and Delay Adjustment Transformer (DAT) Adjustments	1. Set AUTO/MANUAL COLOUR switch to "AUTO". 2. Receive the colour-bar signal from a colour-bar generator. 3. Connect an oscilloscope to the base of Q155 as shown in Fig. 4-5.	VR304 (SMB) T306 (DAT) (on C board, See Fig. 4-5)	1. Adjust T306 to minimize ⓐ as shown.  2. Connect a 0.01 μF capacitor between Q318 base and ground, and then record a peak-to-peak reading on the scope. 3. Disconnect the capacitor connected in step 2. 4. Connect a 0.01 μF capacitor between the secondary of T306 (DAT) and ground as shown (See Fig. 4-5), and then adjust VR304 for the same peak-to-peak reading as in step 2.  5. Disconnect the capacitor connected in step 4.

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
Continuous Wave Oscillation Adjustment	1. Set AUTO/MANUAL COLOUR switch to "AUTO". 2. Receive the colour-bar signal from a colour-bar generator. 3. Short the base of Q310 to ground. 4. Add a ceramic capacitor (0.01 μF/ 50 V) between the connection point of C331 and VR302 and ground.	T304 (COT) (on C board, See Fig. 4-5)	1. Adjust T304 to synchronize the colour picture.
Take-off Transformer Adjustment	1. Set AUTO/MANUAL COLOUR switch to "AUTO". 2. Receive the colour-bar signal from a colour-bar generator. 3. Connect an oscilloscope to the secondary of TOT as shown in Fig. 4-5.	T301 (TOT) (on C board, See Fig. 4-5)	1. Adjust T301 to obtain maximum 4.43 MHz components.
4.43 MHz Trap Adjustment	1. Set AUTO/MANUAL COLOUR switch to "AUTO". 2. Receive the colour-bar signal from a colour-bar generator. 3. Connect an oscilloscope to the emitter of Q153 as shown in Fig. 4-5.	L156 (4.43 MHz Trap) (on C board, See Fig. 4-5)	1. Adjust L156 to minimize 4.43 MHz components as shown. 

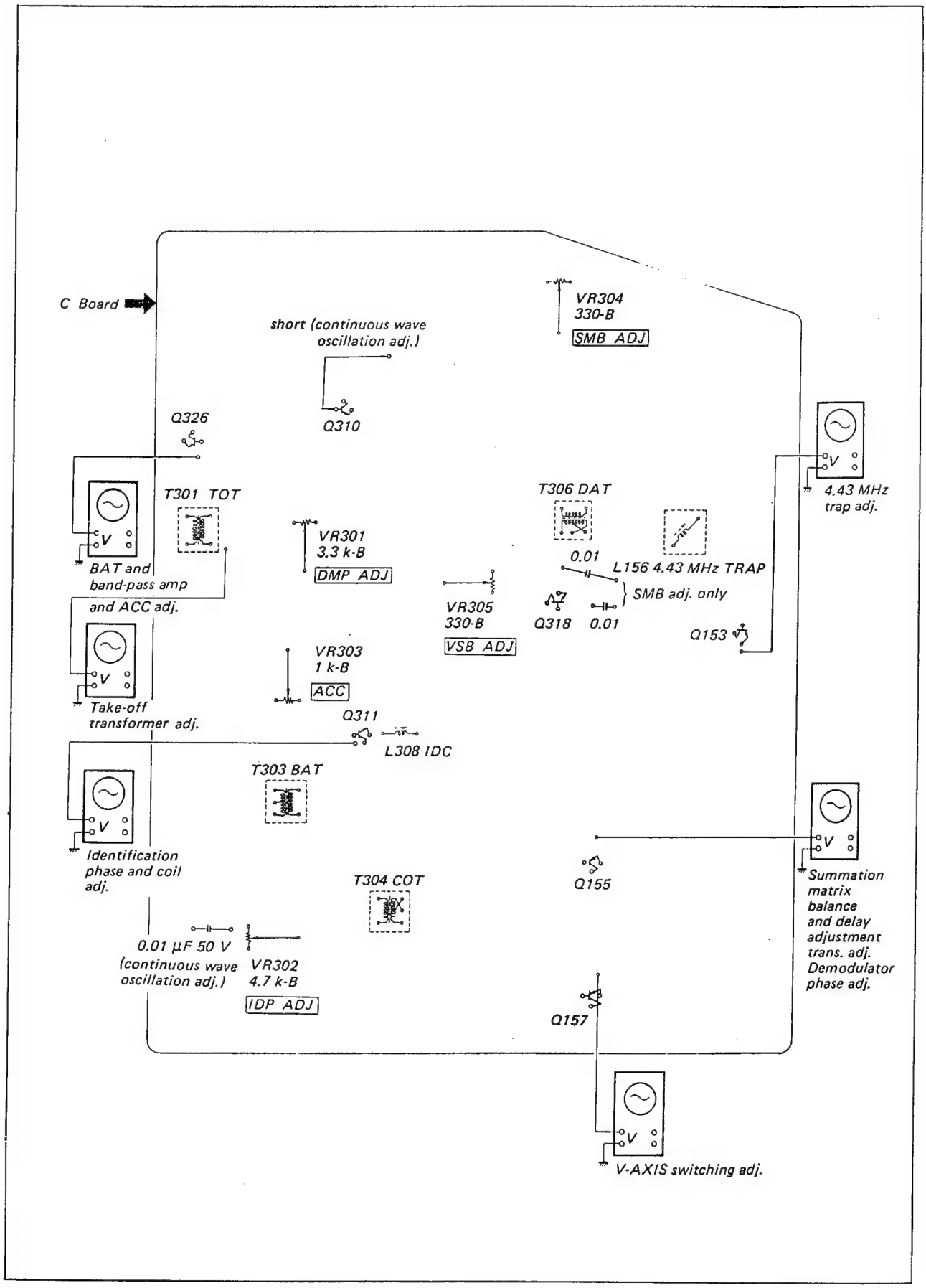


Fig. 4-5. Adjustment setup and parts location

SECTION 5
REPACKING

The KV-1810UB original shipping carton and packing materials are the ideal container for shipping the unit. However to secure the maximum protection, the KV-1810UB must be repacked in these materials precisely as before. The proper repacking procedures are shown in Fig. 5-1.

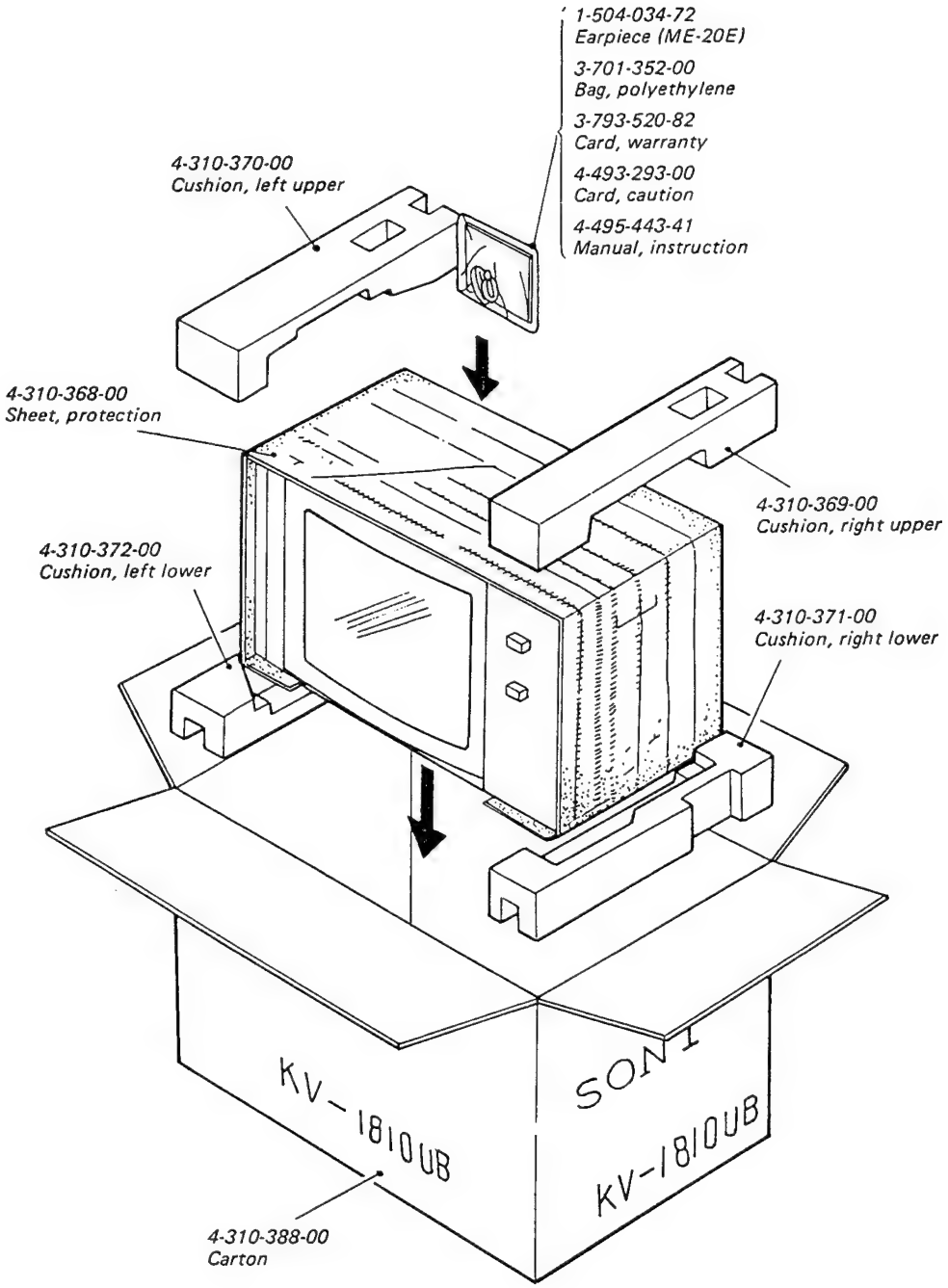
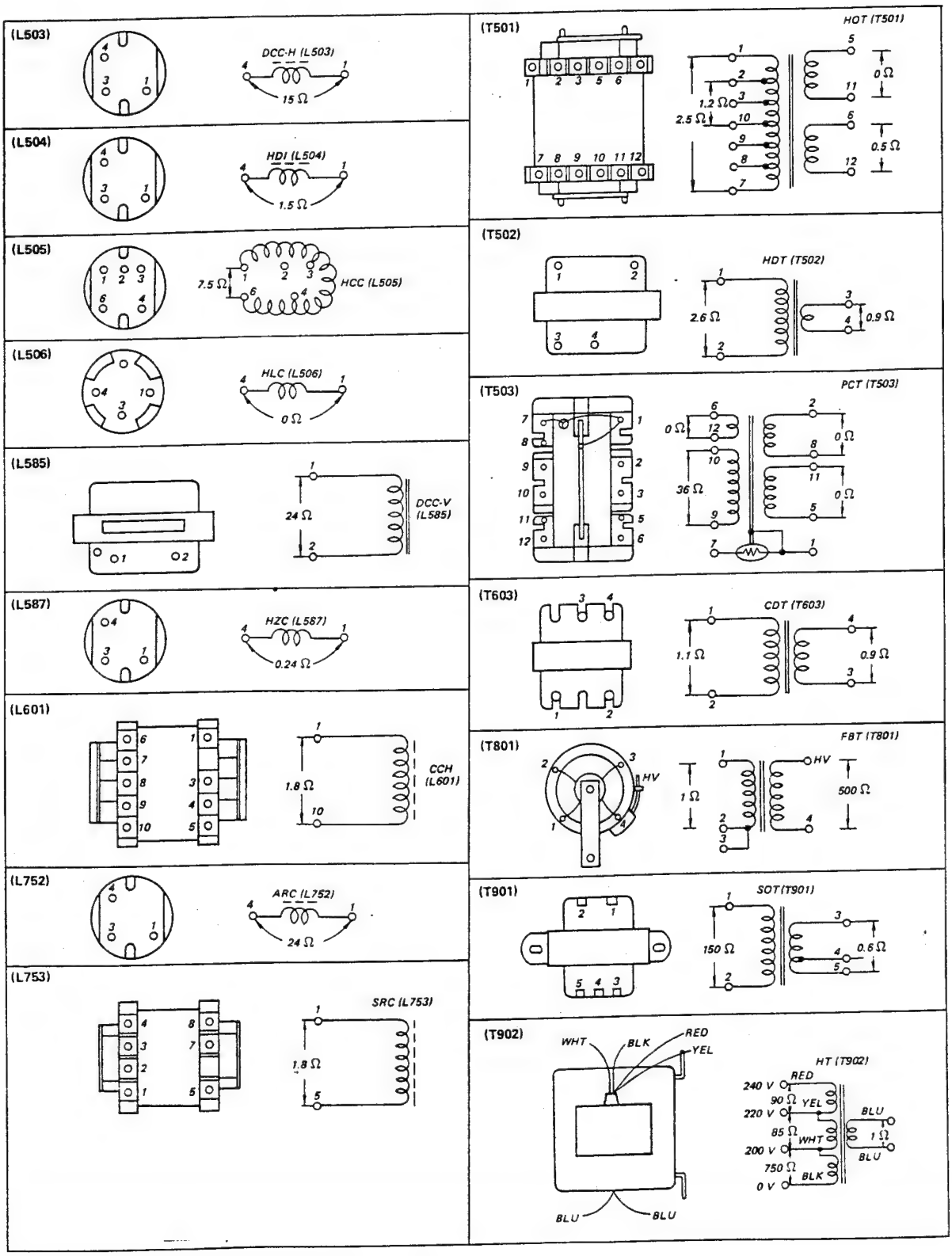


Fig. 5-1. Repacking

SECTION 6

DIAGRAMS

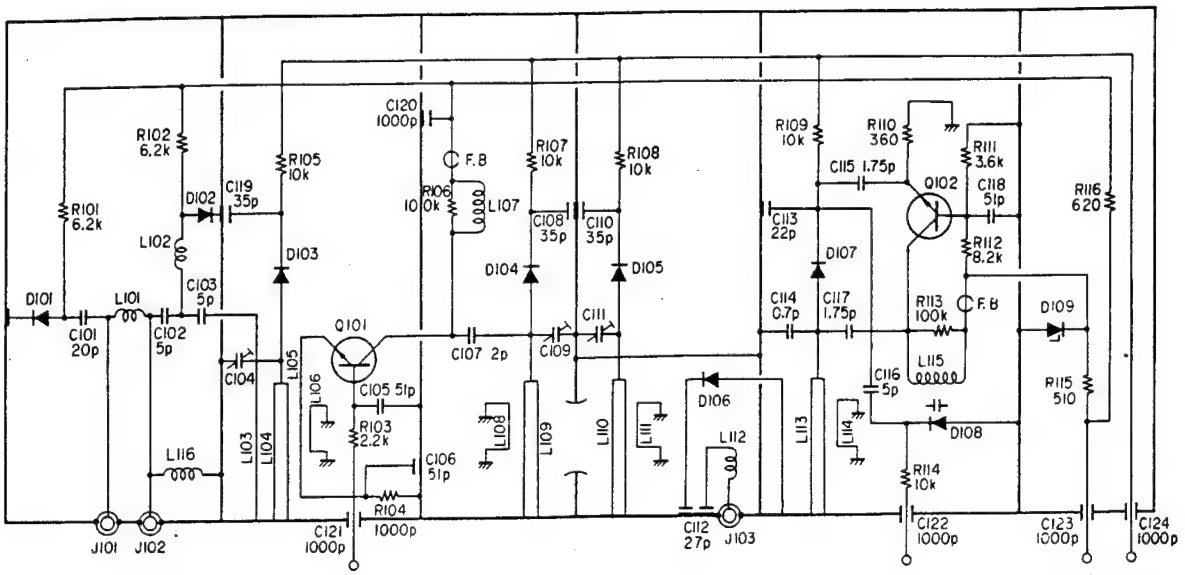
6-1. DC RESISTANCE AND WINDING DIAGRAM OF COILS AND TRANSFORMERS



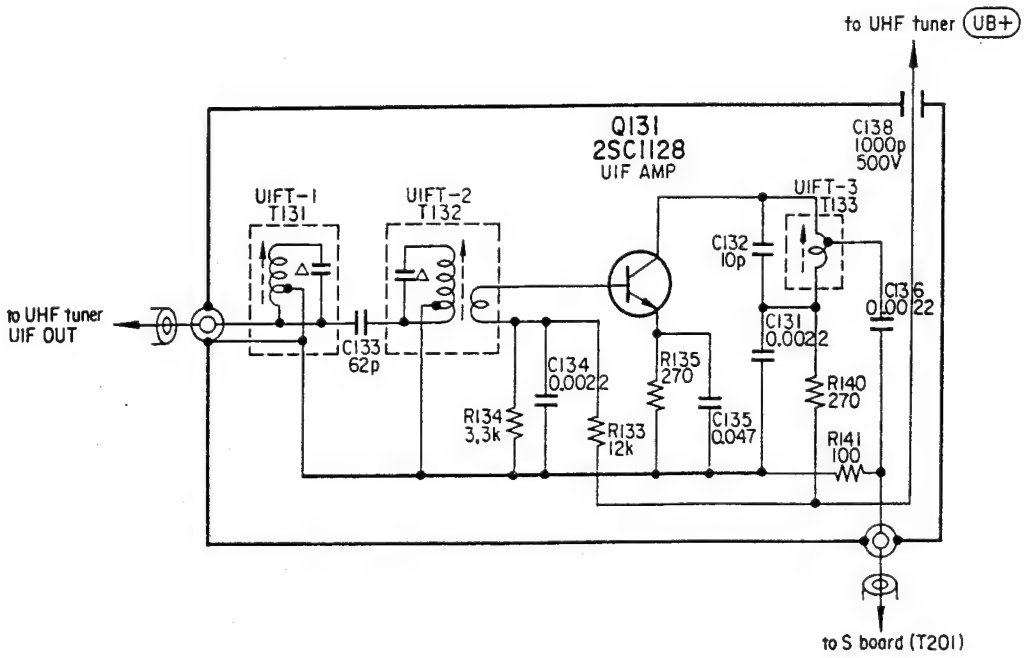
6-2. SCHEMATIC DIAGRAM
– UHF TUNER (BT-871) –

Q101 2SC1070 D107 IT6 Q102 2SC288A

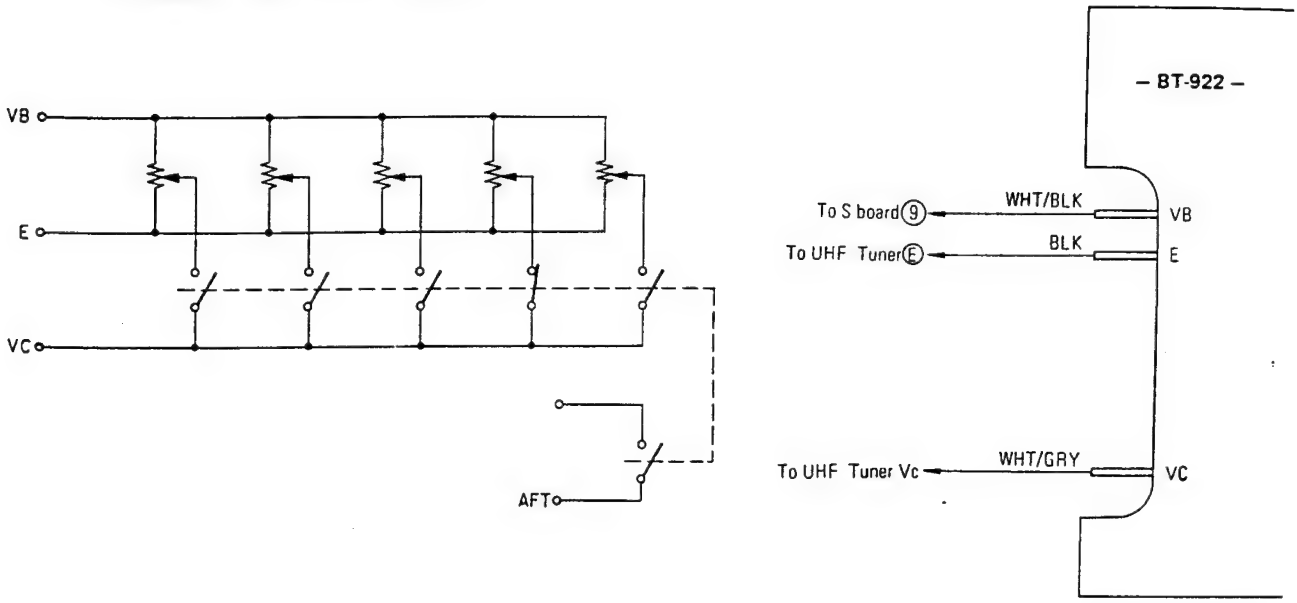
D101 IS2222 D102 IS2222 D103 IT6 D104 IT6 D105 IT6 D106 IS2198 D108 IT6 D109 RD-11E or EQA01-11S



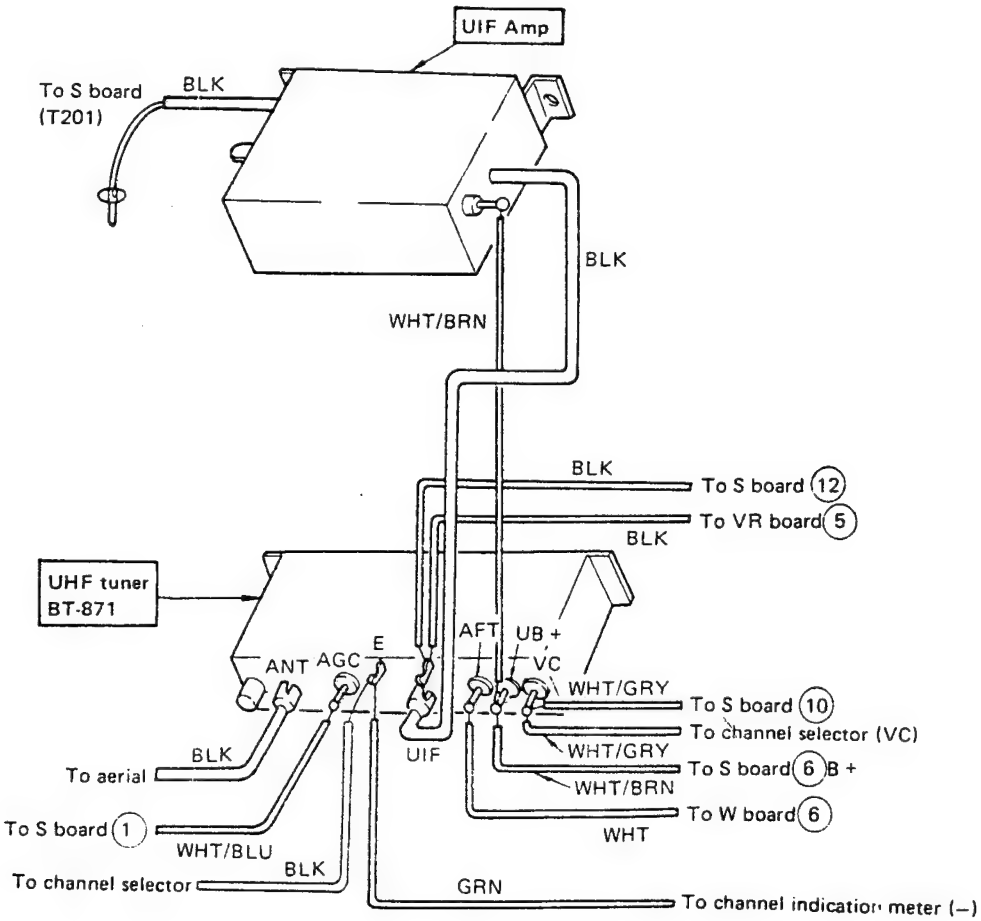
6-3. SCHEMATIC DIAGRAMS
– UIF Amp –



6-4. SCHEMATIC AND WIRING DIAGRAMS
– CHANNEL SELECTOR (BT-922) –

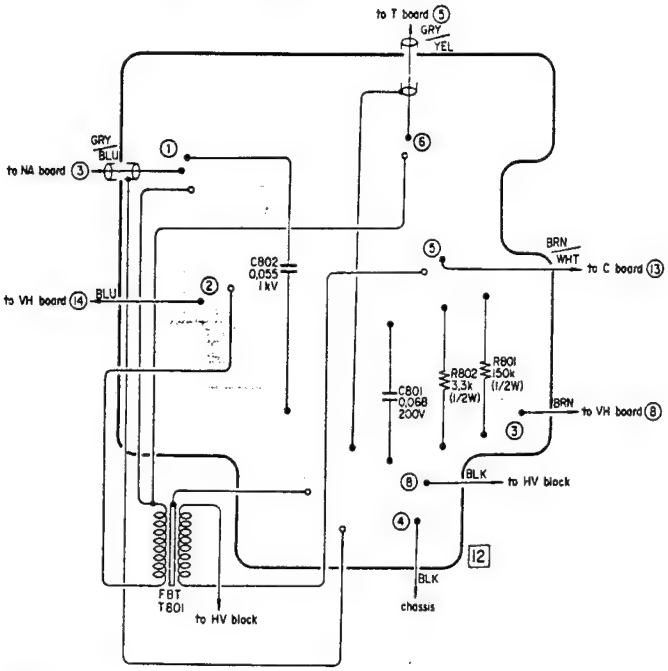


6-5. WIRING DIAGRAMS
– UHF TUNER (BT-871) AND UIF AMP –



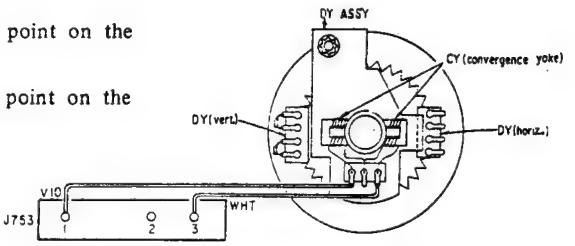
6-6. MOUNTING DIAGRAM – H and NA Boards –

– H Board –

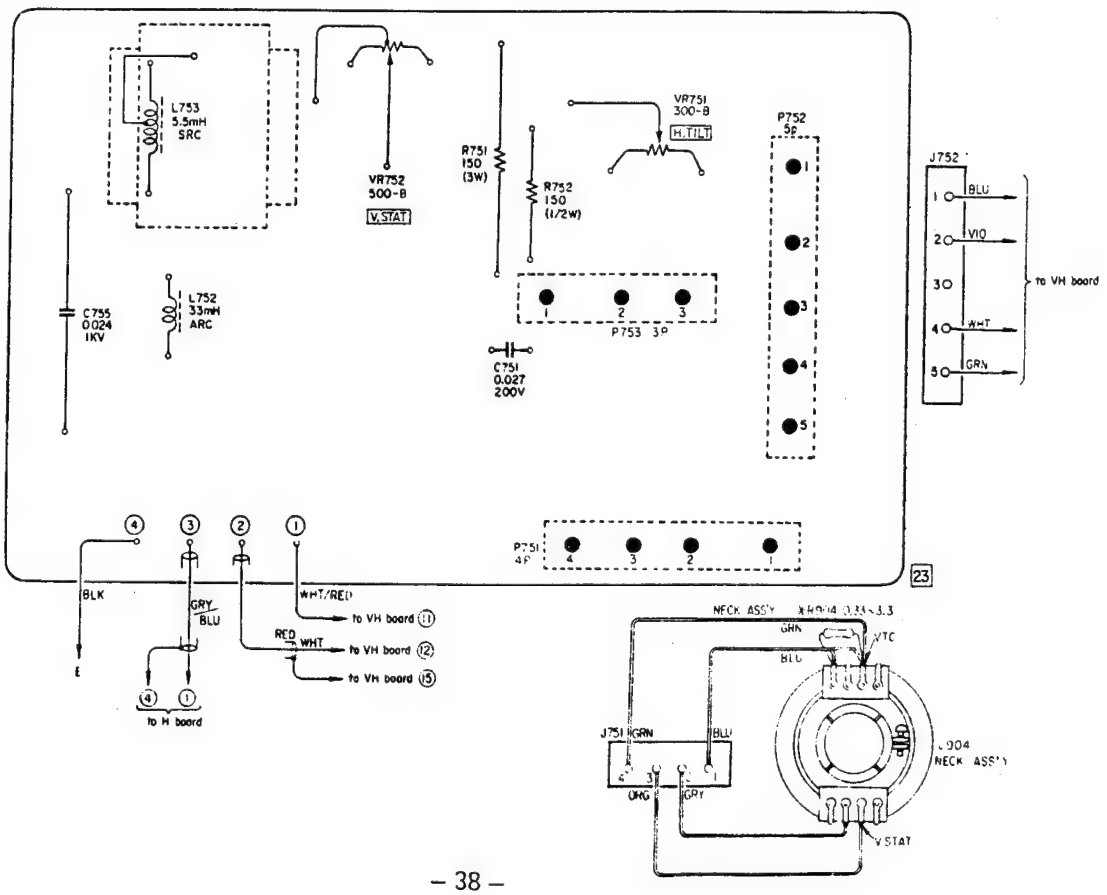


Note:

- ●– indicates parts or wire connection point on the conductor side.
- ○– indicates parts or wire connection point on the component side.

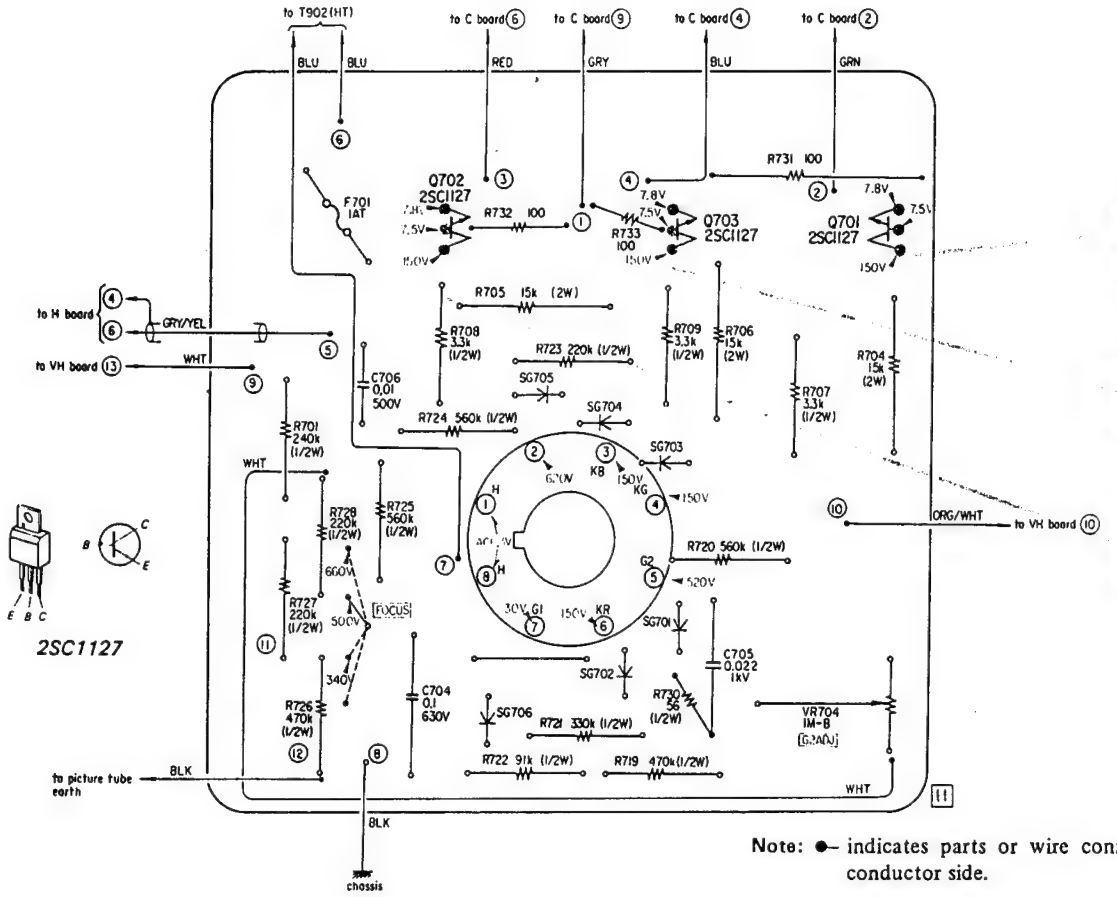


– NA Board –



6-7. MOUNTING DIAGRAM – T and W Boards –

– T Board –



(33) *130 Vp-p (Horiz.)*

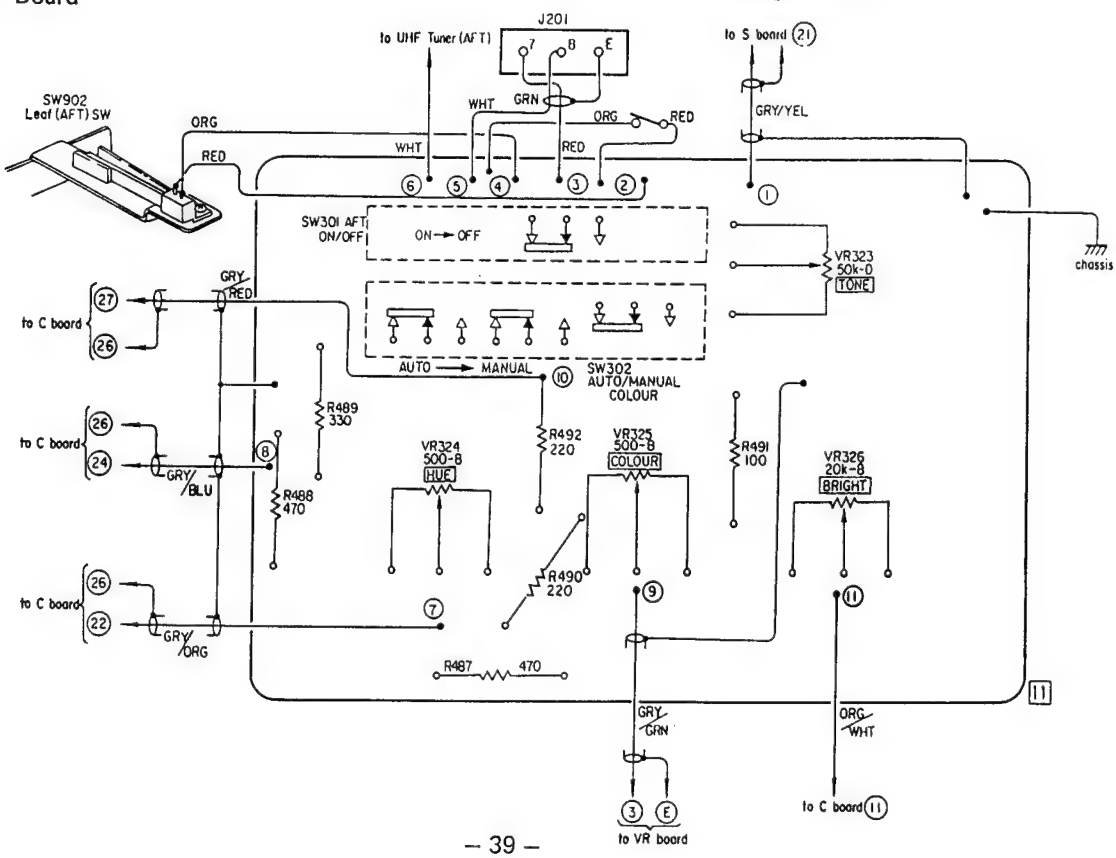
(35) *120 Vp-p (Horiz.)*

(34) *150 Vp-p (Horiz.)*

Note: ●– indicates parts or wire connection point on the conductor side.

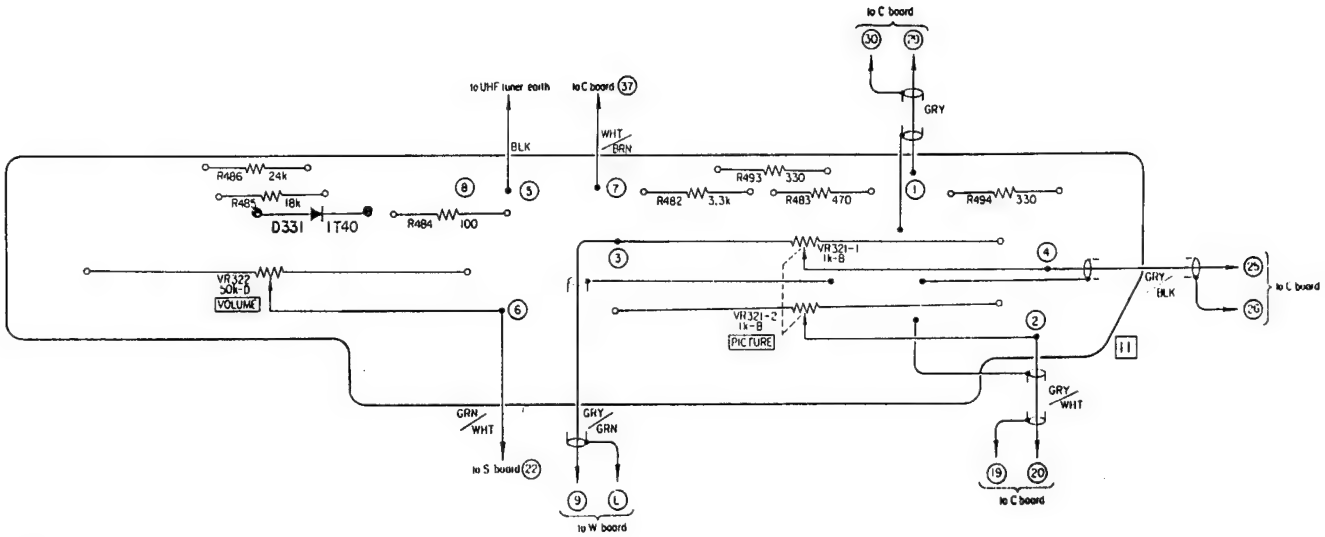
○– indicates parts or wire connection point on the component side.

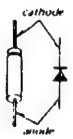
– W Board –



6-8. MOUNTING DIAGRAM – VR and ETC Boards –

– VR Board –



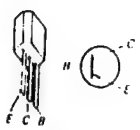


1T40

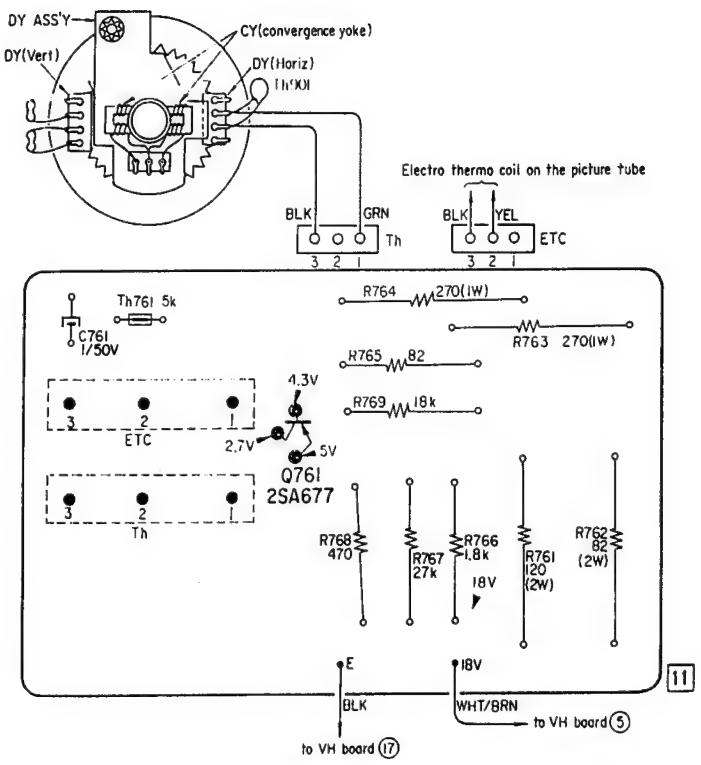
Note: ●– indicates parts or wire connection point on the conductor side.

○– indicates parts or wire connection point on the component side.

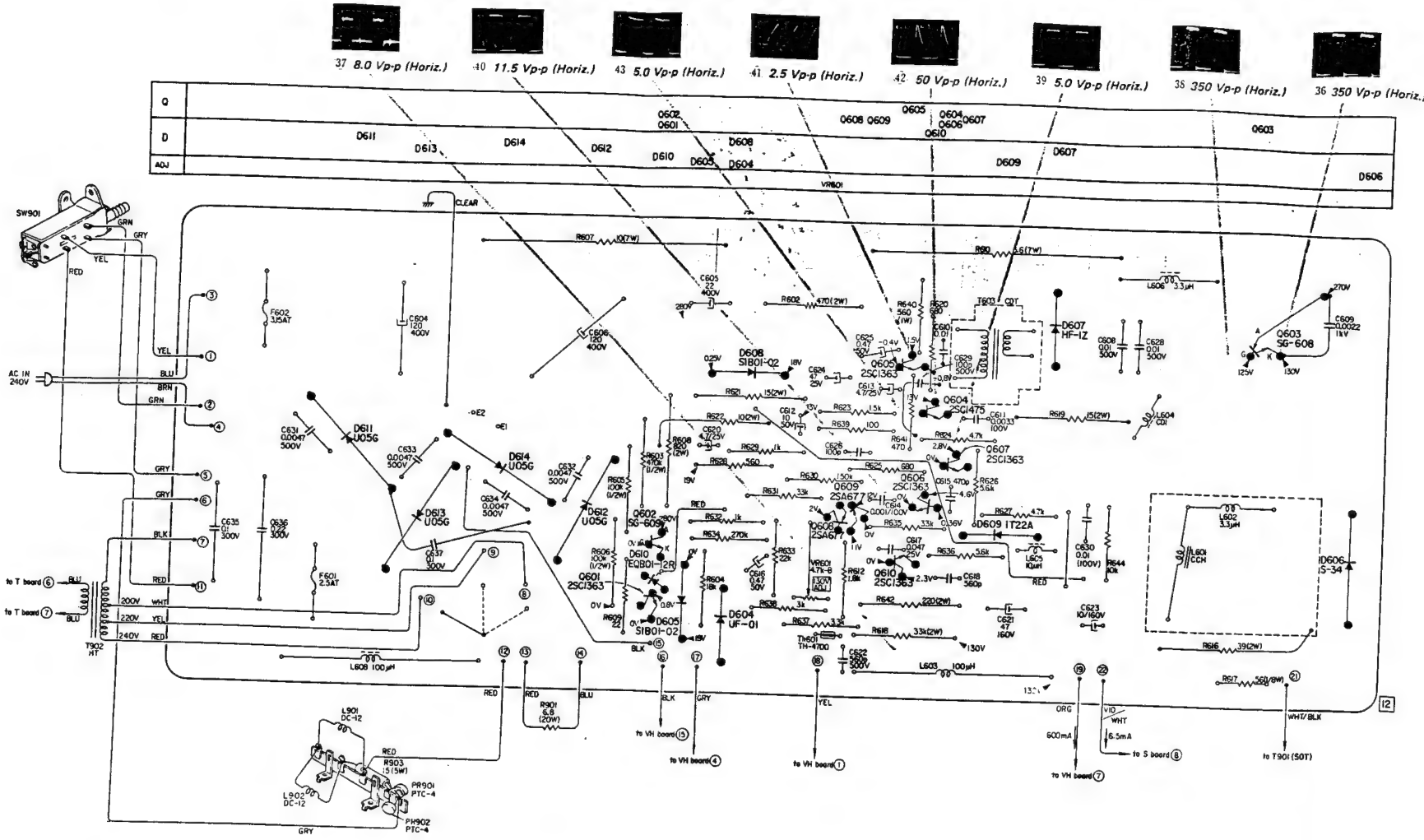
– ETC Board –

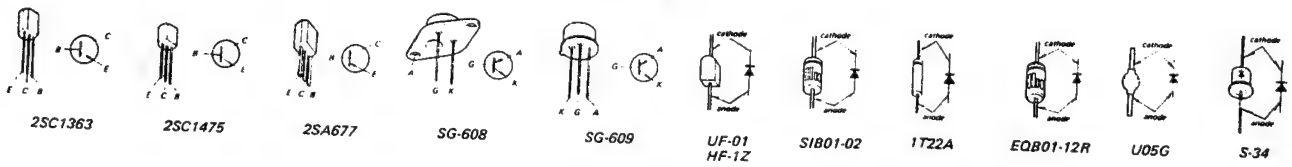


2SA677



6-9. MOUNTING DIAGRAM – PR Board –



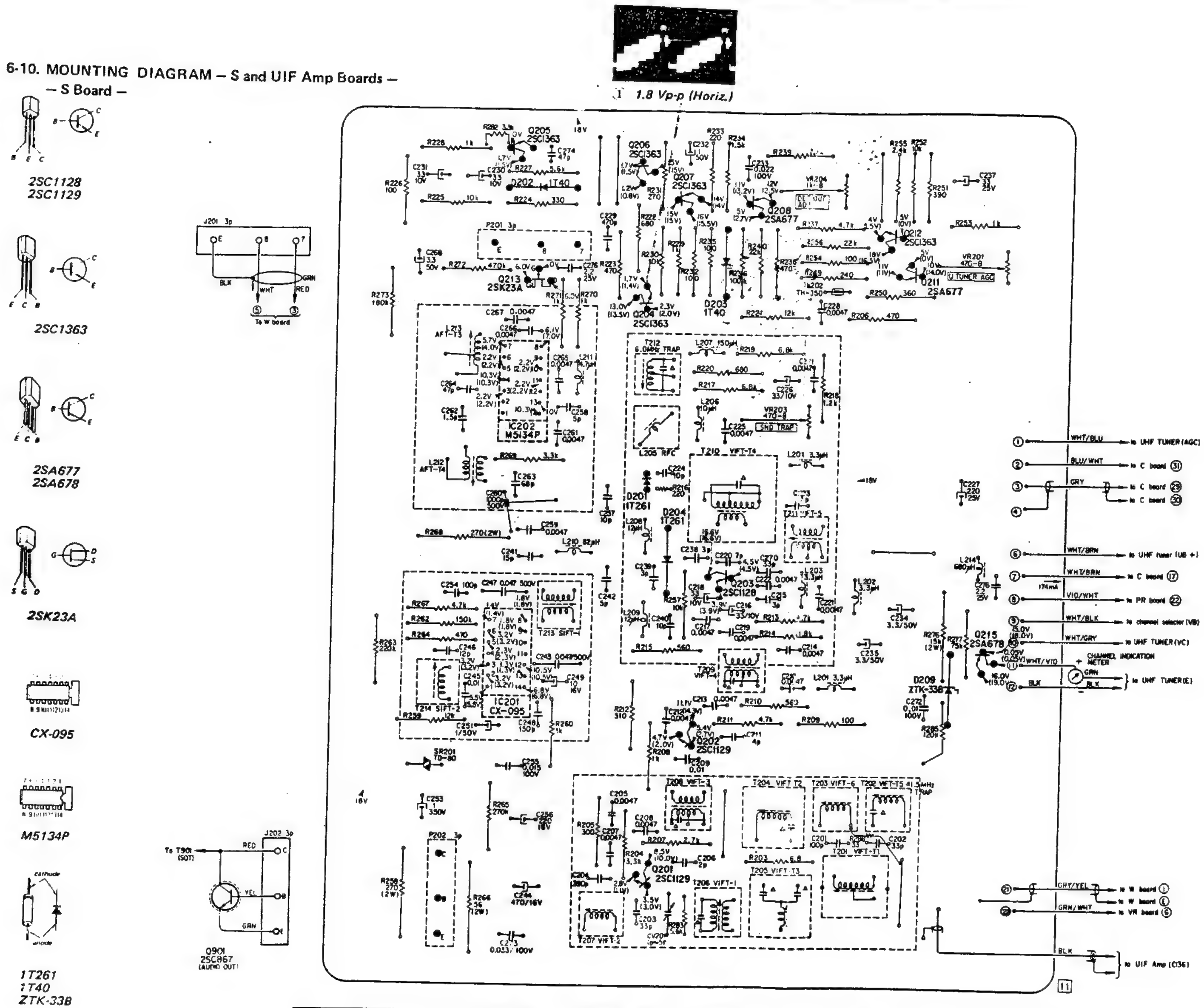


Note: ● indicates parts or wire connection point on the conductor side.

○ indicates parts or wire connection point on the component side.

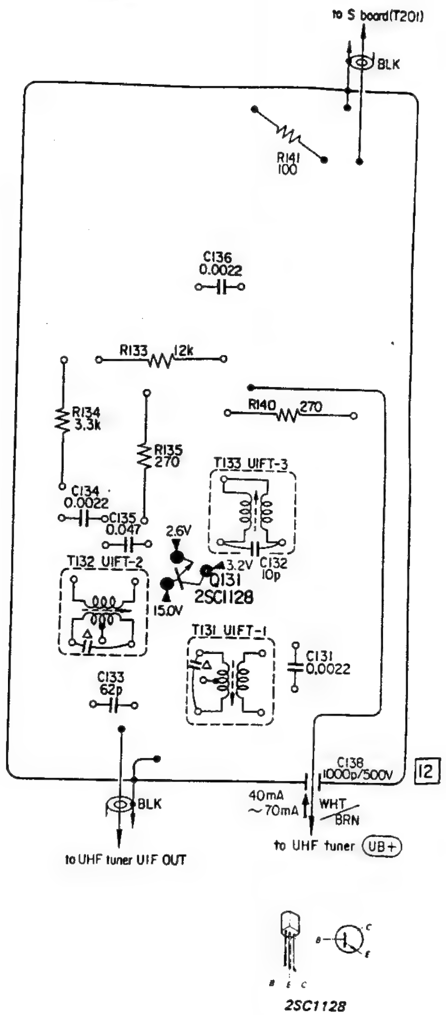
6-10. MOUNTING DIAGRAM – S and UIF Amp Boards –

– S Board –



Q IC	Q205 Q213 IC202 IC201 Q206 Q204 Q207 Q201 Q202 Q203 Q208 Q212 Q211 Q215
D	D202 D201 D204 D203 D209
ADJ	T214 L213 L212 T213 VR203 VR204 VR201

– UIF Amp Board –



Note:

( ): at no signal input

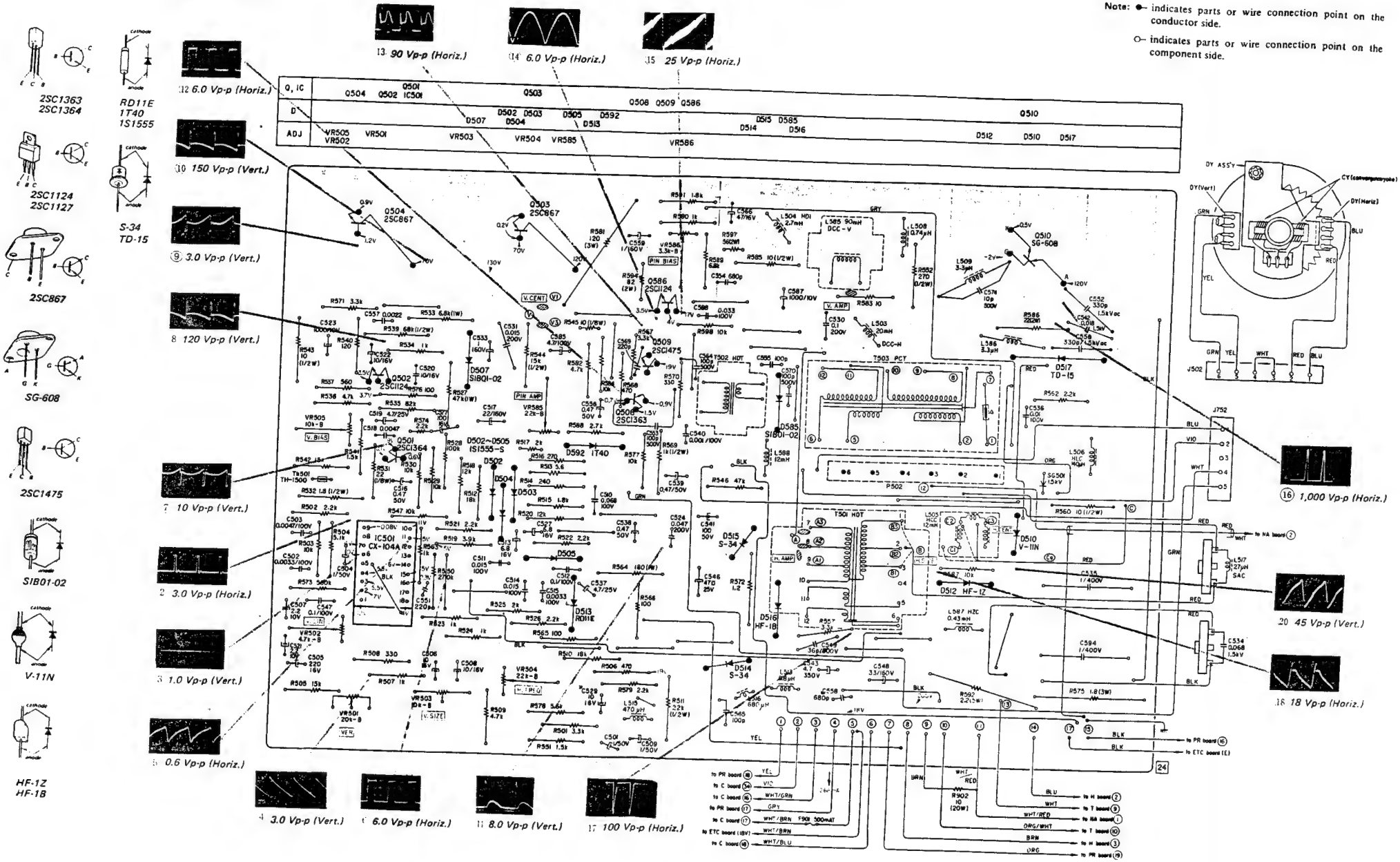
●– indicates parts or wire connection point on the conductor side.

○– indicates parts or wire connection point on the component side.

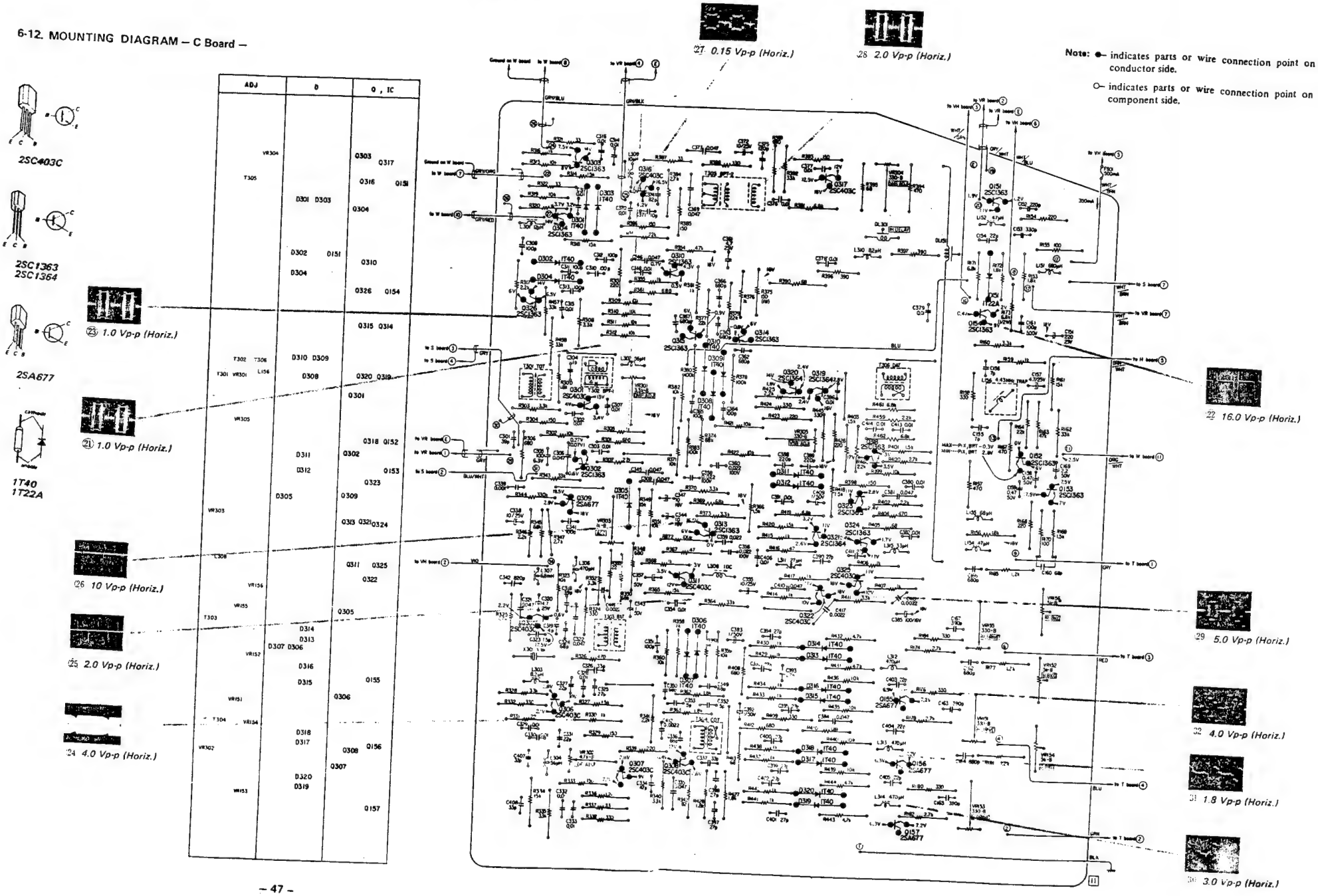
6-11. MOUNTING DIAGRAM – VH Board –

Note: ●– indicates parts or wire connection point on the conductor side.

○– indicates parts or wire connection point on the component side.



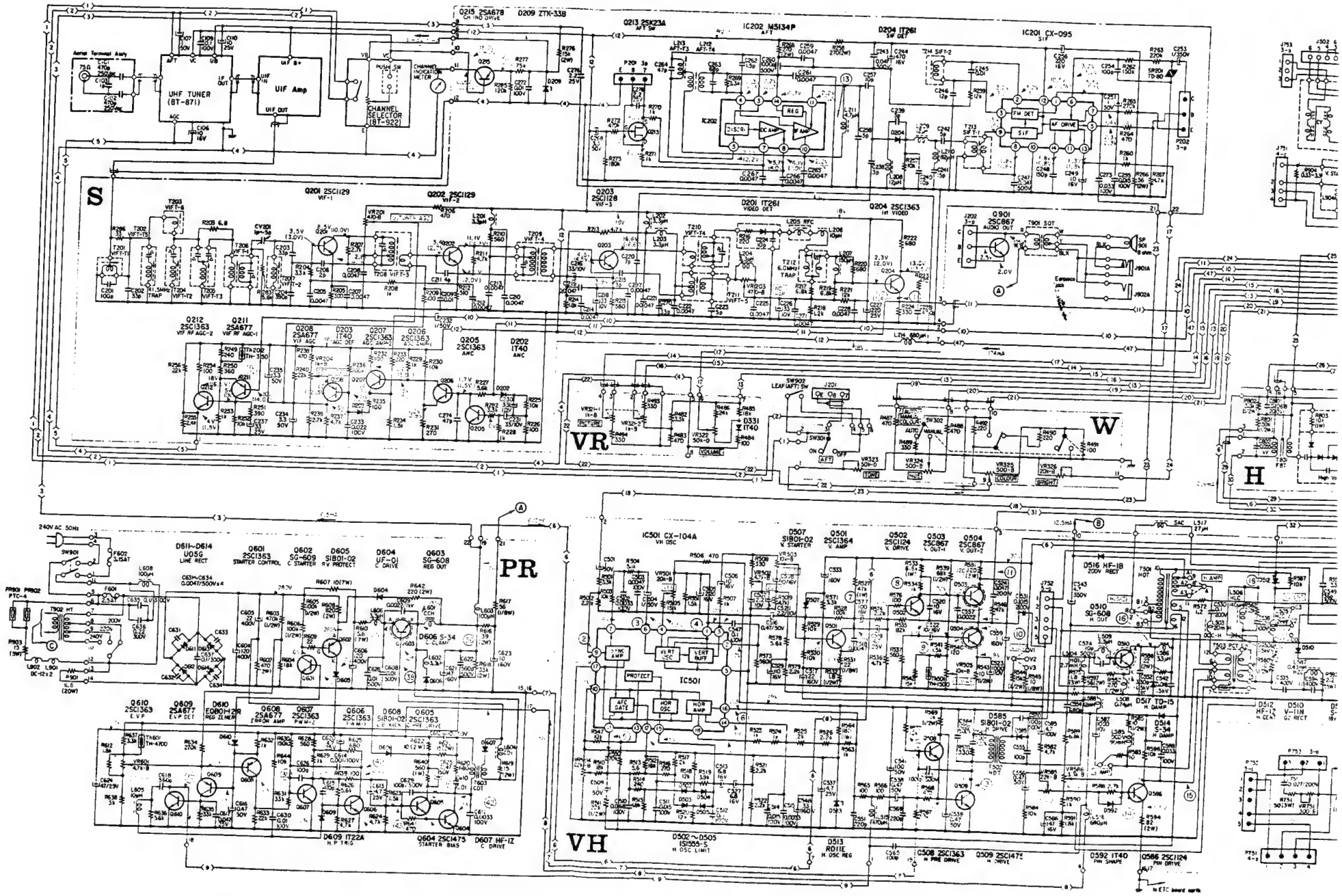
6-12. MOUNTING DIAGRAM – C Board –

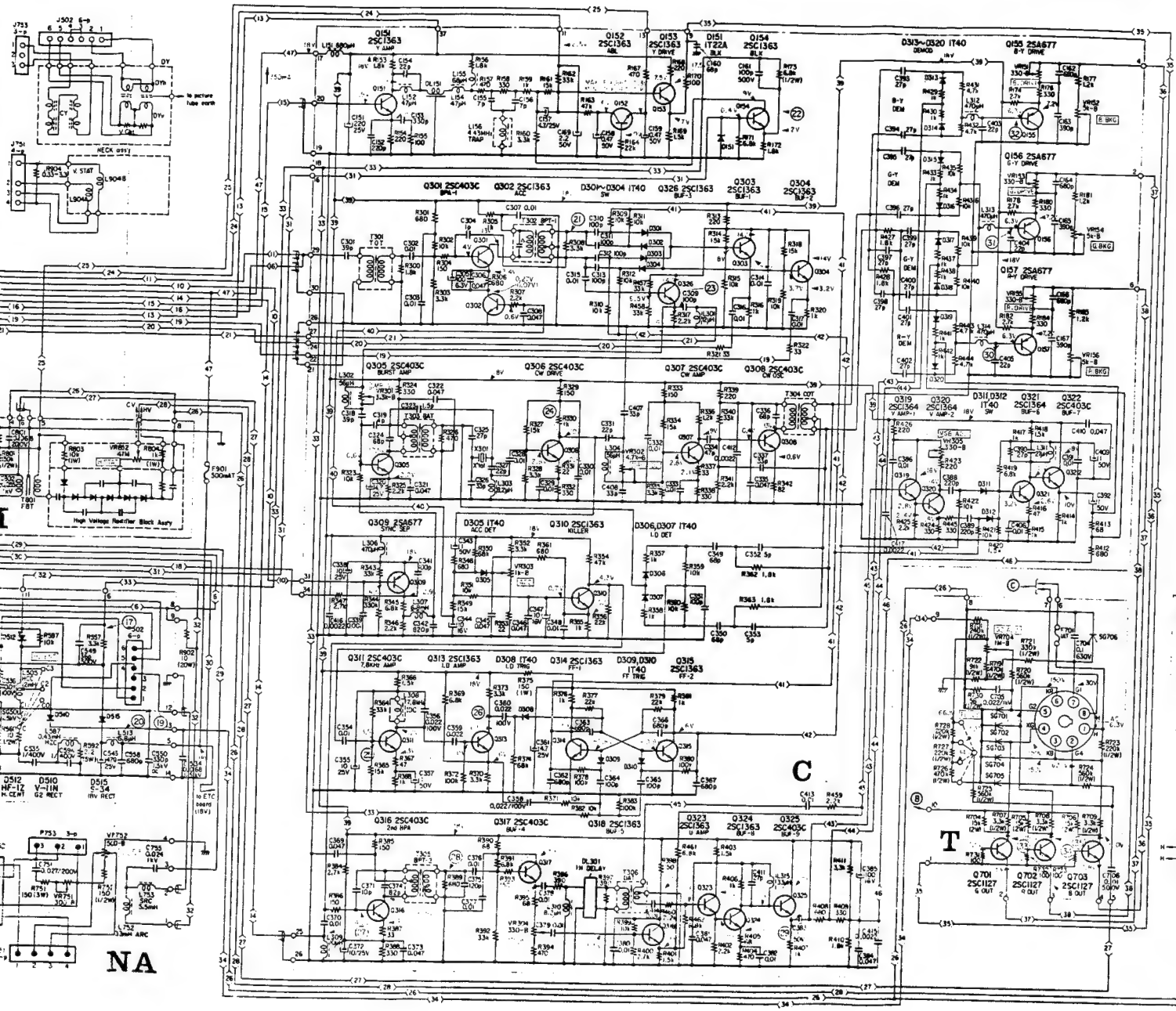


Note: ●– indicates parts or wire connection point on the conductor side.

○– indicates parts or wire connection point on the component side.

6-13. SCHEMATIC DIAGRAM





Note:

1. All capacitors are in μF unless otherwise noted. p = $\mu\mu$F
2. All resistors are in ohms, ¼ W unless otherwise noted. k = 1000 M = 1000 k
3. ÷ indicates parts to be selected.
4. △ indicates internal components.
5. Voltages are dc with respect to ground unless otherwise noted. Readings are with a colour-bar signal applied. Readings in ( ) are taken under no-signal conditions with a 20,000-ohm-per-volt VOM. Voltage variations may be noted due to normal production tolerances.
   ( ) in S board: at no signal input
6. The blue circled numbers (① ~ ㊸) refer to waveforms shown on mounting diagrams.
7. ⏚ indicates chassis ground.

Abbreviations for Coils and Transformers Used in KV-1810UB

Abbreviation	Terms
DCC-V	vertical dynamic convergence coil
HDI	horizontal drive inductor
HCC	horizontal centering coil
SAC	summation adjustment coil
HZC	horizontal zigzag coil
CCH	chopper choke
CDI	chopper drive inductor
CDT	chopper drive transformer
ARC	arc reactor coil
SRC	sine resonance coil
TOT	take off transformer
HDT	horizontal drive transformer
PCT	pincushion correction transformer
COT	cw oscillator transformer

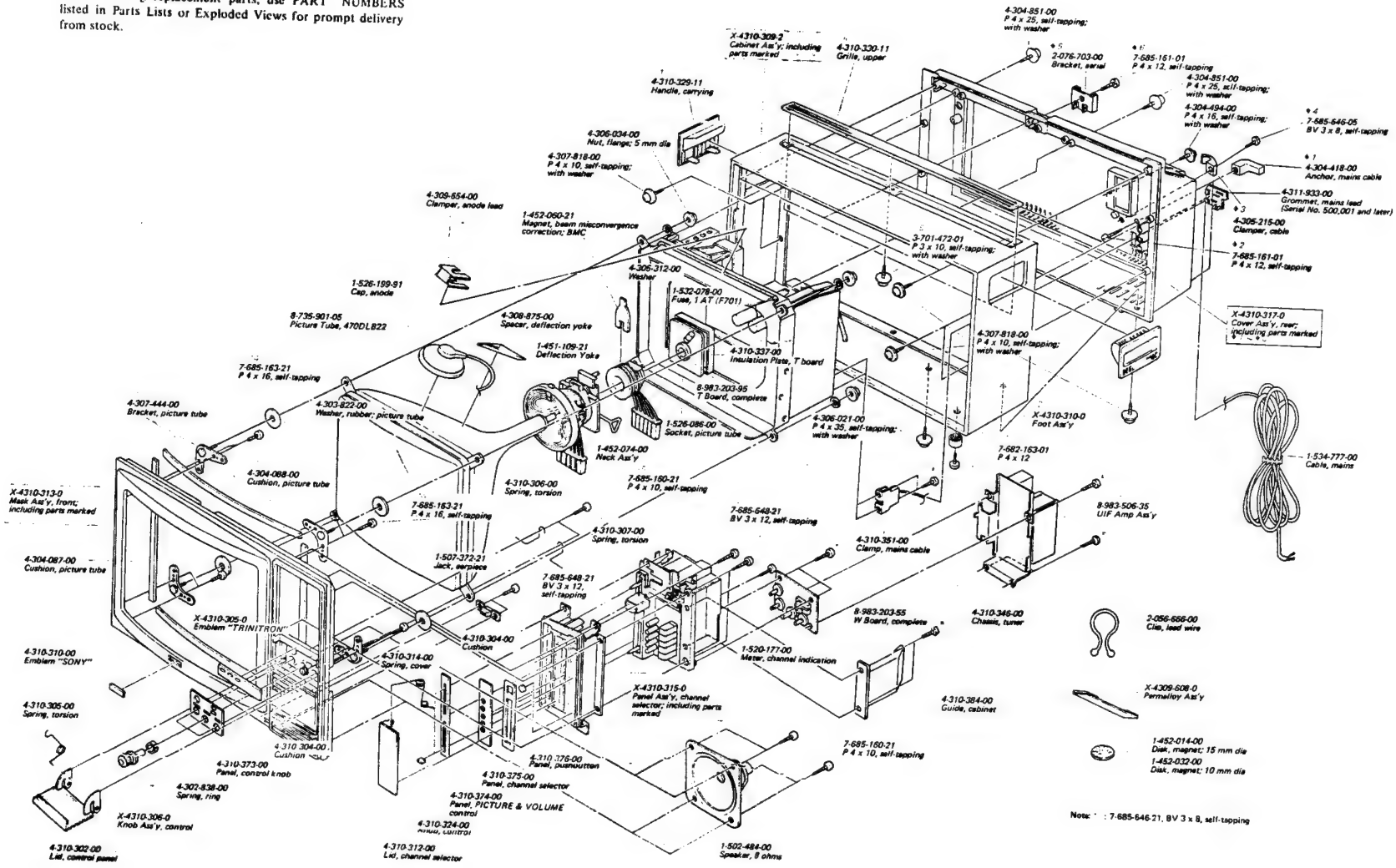
SECTION 7

EXPLODED VIEWS

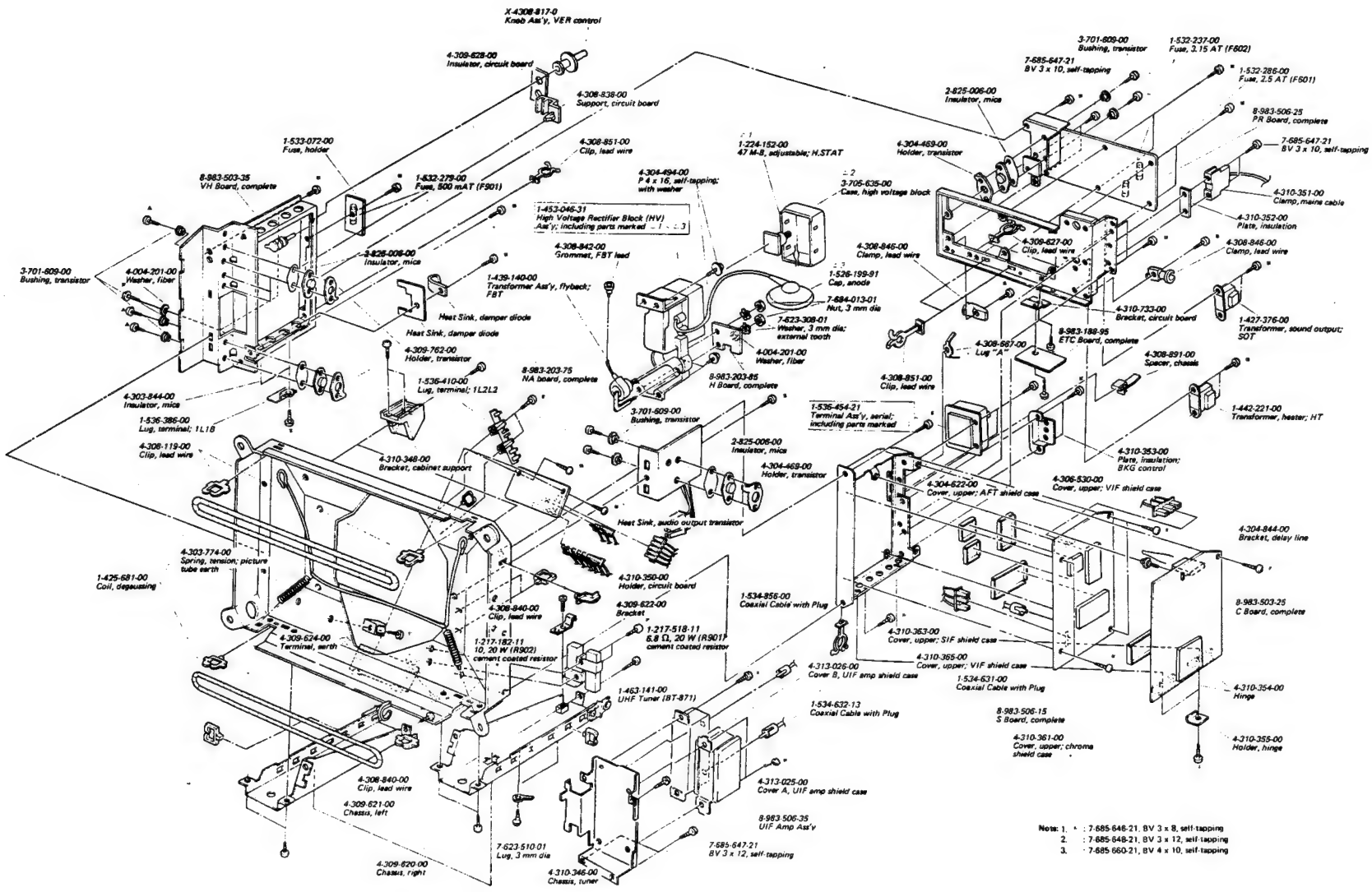
EXPLODED VIEW (1)

Note: All screws are Phillips (cross recess) type unless otherwise noted.

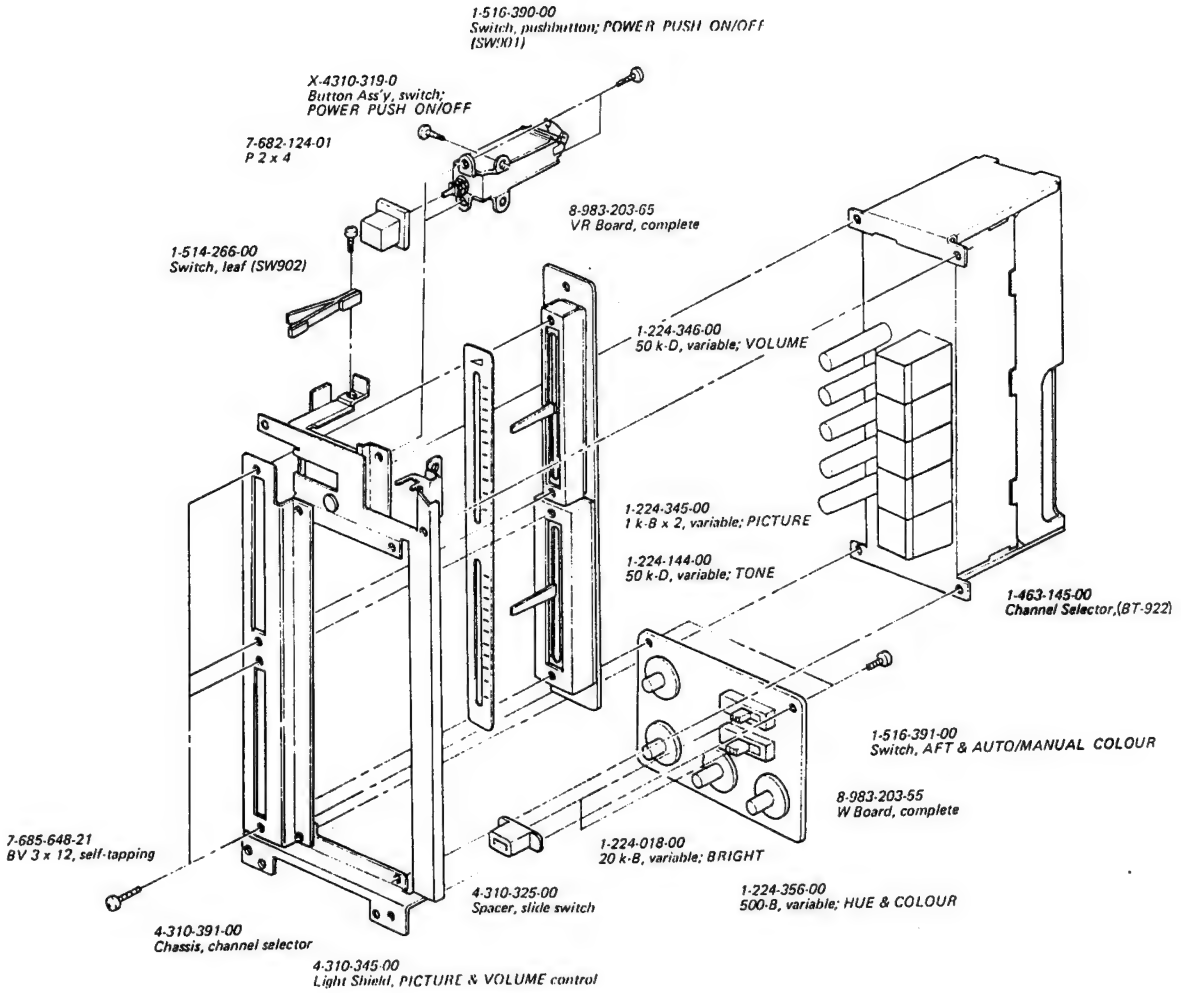
Parts without part numbers and descriptions are not available. When ordering replacement parts, use PART NUMBERS listed in Parts Lists or Exploded Views for prompt delivery from stock.



EXPLODED VIEW (2)



EXPLODED VIEW (3)



Note: : 7-685-646-21, BV 3 x 8 self-tapping

SECTION 8

ELECTRICAL PARTS LIST

Ref. No.	*Part No.*	*Description*	
		TUNER AND CIRCUIT BOARDS	
	1-463-145-00	Channel Selector (BT-922)	
	1-463-141-00	UHF Tuner (BT-871)	
	8-983-188-95	ETC Board, complete	
	8-983-203-55	W Board, complete	
	8-983-203-65	VR Board, complete	
	8-983-203-75	NA Board, complete	
	8-983-203-85	H Board, complete	
	8-983-203-95	T Board, complete	
	8-983-503-25	C Board, complete	
	8-983-503-35	VH Board, complete	
	8-983-506-15	S Board, complete	
	8-983-506-25	PR Board, complete	
	8-983-506-35	UIF Amp Ass'y	
		SEMICONDUCTORS	
Q131		Transistor	2SC1128
Q151		Transistor	2SC1363
Q152		Transistor	2SC1363
Q153		Transistor	2SC1363
Q154		Transistor	2SC1363
Q155		Transistor	2SA677
Q156		Transistor	2SA677
Q157		Transistor	2SA677
Q201		Transistor	2SC1129
Q202		Transistor	2SC1129
Q203		Transistor	2SC1128
Q204		Transistor	2SC1363
Q205		Transistor	2SC1363
Q206		Transistor	2SC1363
Q207		Transistor	2SC1363
Q208		Transistor	2SA677
Q209		----------	
Q210		----------	
Q211		Transistor	2SA677
Q212		Transistor	2SC1363
Q213		Transistor	2SK23A
Q214		----------	
Q215		Transistor	2SA678

Ref. No.	*Part No.*	*Description*	
Q301		Transistor	2SC403C
Q302		Transistor	2SC1363
Q303		Transistor	2SC1363
Q304		Transistor	2SC1363
Q305		Transistor	2SC403C
Q306		Transistor	2SC403C
Q307		Transistor	2SC403C
Q308		Transistor	2SC403C
Q309		Transistor	2SA677
Q310		Transistor	2SC1363
Q311		Transistor	2SC403C
Q312		----------	
Q313		Transistor	2SC1363
Q314		Transistor	2SC1363
Q315		Transistor	2SC1363
Q316		Transistor	2SC403C
Q317		Transistor	2SC403C
Q318		Transistor	2SC1363
Q319		Transistor	2SC1364
Q320		Transistor	2SC1364
Q321		Transistor	2SC1364
Q322		Transistor	2SC403C
Q323		Transistor	2SC1363
Q324		Transistor	2SC1363
Q325		Transistor	2SC403C
Q326		Transistor	2SC1363
Q501		Transistor	2SC1364
Q502		Transistor	2SC1124
Q503		Transistor	2SC867
Q504		Transistor	2SC867
Q505		----------	
Q506		----------	
Q507		----------	
Q508		Transistor	2SC1363
Q509		Transistor	2SC1475
Q510		Transistor	SG-608
Q586		Transistor	2SC1124
Q601		Transistor	2SC633A

Ref. No.	*Part No.*	*Description*	
Q602		Transistor	SG-609
Q603		Transistor	SG-608
Q604		Transistor	2SC1475
Q605		Transistor	2SC633A
Q606		Transistor	2SC633A
Q607		Transistor	2SC633A
Q608		Transistor	2SA677
Q609		Transistor	2SA677
Q610		Transistor	2SC633A
Q701		Transistor	2SC1127
Q702		Transistor	2SC1127
Q703		Transistor	2SC1127
Q761		Transistor	2SA677
Q901		Transistor	2SC867
D151		Diode	1T22A
D201		Diode	1T261
D202		Diode	1T40
D203		Diode	1T40
D204		Diode	1T261
D209		Diode	ZTK-33B
D301		Diode	1T40
D302		Diode	1T40
D303		Diode	1T40
D304		Diode	1T40
D305		Diode	1T40
D306		Diode	1T40
D307		Diode	1T40
D308		Diode	1T40
D309		Diode	1T40
D310		Diode	1T40
D311		Diode	1T40
D312		Diode	1T40
D313		Diode	1T40
D314		Diode	1T40
D315		Diode	1T40
D316		Diode	1T40

Ref. No.	*Part No.*	*Description*	
D317		Diode	1T40
D318		Diode	1T40
D319		Diode	1T40
D320		Diode	1T40
D331		Diode	1T40
D502		Diode	1S1555-S
D503		Diode	1S1555-S
D504		Diode	1S1555-S
D505		Diode	1S1555-S
D507		Diode	SIB01-02
D510		Diode	V-11N
D512		Diode	HF-1Z
D513		Diode	RD11E
D514		Diode	S-34
D515		Diode	S-34
D516		Diode	HF-1B
D517		Diode	TD-15
D585		Diode	SIB01-02
D592		Diode	1T40
D604		Diode	UF-01
D605		Diode	SIB01-02
D606		Diode	S-34
D607		Diode	HF-1Z
D608		Diode	SIB01-02
D609		Diode	1T22A
D610		Diode	EQB01-12R
D611		Diode	U05G
D612		Diode	U05G
D613		Diode	U05G
D614		Diode	U05G
IC201		IC	CX-095
IC202		IC	M5134P
IC501		IC	CX-104A
SR201	1-800-032-00	Varistor	TD-80
TH201		----------	
TH202	1-800-071-00	Thermistor	TH-350

Ref. No.	*Part No.*	*Description*	
TH501	1-800-069-00	Thermistor	TH-1500
TH601	1-800-070-00	Thermistor	TH-4700
TH761	1-800-279-00	Thermistor	5 kΩ
TH901	1-800-280-00	Thermistor	5 kΩ
PR901	1-800-080-00	Posistor	PTC-4
PR902	1-800-080-00	Posistor	PTC-4

COILS

L151	1-407-557-00	680 μH, micro inductor
L152	1-407-701-00	47 μH, micro inductor
L154	1-407-701-00	47 μH, micro inductor
L155	1-407-703-00	68 μH, micro inductor
L156	1-409-193-00	Trap, 4.43 MHz
L201	1-407-687-00	3.3 μH, micro inductor
L202	1-407-687-00	3.3 μH, micro inductor
L203	1-407-687-00	3.3 μH, micro inductor
L204	1-407-687-00	3.3 μH, micro inductor
L205	1-425-504-00	RFC
L206	1-407-693-00	10 μH, micro inductor
L207	1-407-707-00	150 μH, micro inductor
L208	1-407-694-00	12 μH, micro inductor
L209	1-407-694-00	12 μH, micro inductor
L210	1-407-704-00	82 μH, micro inductor
L211	1-407-689-00	4.7 μH, micro inductor
L212	1-403-811-00	Transformer, AFT-T4
L213	1-403-810-00	Transformer, AFT-T3
L214	1-407-557-00	680 μH, micro inductor
L301	1-407-694-00	12 μH, micro inductor
L302	1-407-702-00	56 μH, micro inductor
L303	1-407-692-00	8.2 μH, micro inductor
L304	1-407-702-00	56 μH, micro inductor
L306	1-407-713-00	470 μH, micro inductor
L307	1-407-204-00	6.8 mH, micro inductor
L308	1-407-240-00	IDC
L309	1-407-693-00	10 μH, micro inductor
L310	1-407-692-00	8.2 μH, micro inductor
L311	1-407-698-00	27 μH, micro inductor
L312	1-407-713-00	470 μH, micro inductor
L313	1-407-713-00	470 μH, micro inductor
L314	1-407-713-00	470 μH, micro inductor
L315	1-407-699-00	33 μH, micro inductor
L503	1-459-115-00	20 mH, dynamic convergence; DCC-H
L504	1-459-112-00	2.7 mH, horizontal drive; HDI
L505	1-459-116-00	12 mH, horizontal centering; HCC
L506	1-459-086-00	140 μH, horizontal linearity; HLC
L508	1-407-365-00	0.74 μH, spook choke
L509	1-407-364-00	3.3 μH, spook choke
L513	1-407-556-00	6.8 μH, micro inductor
L515	1-407-713-00	470 μH, micro inductor
L516	1-407-557-00	680 μH, micro inductor
L517	1-407-775-00	27 μH, summation adjustment; SAC
L585	1-443-008-00	90 mH, dynamic convergence; DCC-V
L586	1-407-780-00	3.3 μH, spook choke
L587	1-459-114-00	0.43 mH, horizontal zigzag; HZC
L588	1-459-059-00	12 mH, micro inductor
L601	1-459-135-00	Chopper Choke, CCH
L602	1-407-364-00	3.3 μH, spook choke
L603	1-407-720-00	100 μH, spook choke
L604	1-459-111-00	Chopper Drive, CDI
L605	1-407-693-00	10 μH, micro inductor
L606	1-407-364-00	3.3 μH, spook choke
L608	1-407-720-00	100 μH, spook choke
L752	1-459-118-00	33 mH, arc reactor; ARC
L753	1-413-020-00	5.5 mH, sinc resonance; SRC
L901	1-425-681-00	Degaussing
L902	1-425-681-00	Degaussing
L904	1-452-074-00	Neck Ass'y
DL151	1-415-047-00	Delay Line, luminance
DL301	1-415-075-00	Delay Line, 1H
DY	1-451-109-21	Deflection Yoke

TRANSFORMERS

T131	1-403-729-00	UIFT-1
T132	1-403-729-00	UIFT-2
T133	1-403-907-00	UIFT-3

Ref. No.	Part No.	Description
T201	1-409-225-00	VIFT-T1
T202	1-409-269-00	VIFT-T5; 41.5 MHz
T203	1-403-949-00	VIFT-6
T204	1-409-270-00	VIFT-T2
T205	1-409-214-00	VIFT-T3
T206	1-403-947-00	VIFT-1
T207	1-403-948-00	VIFT-2
T208	1-403-729-00	VIFT-3
T209	1-403-729-00	VIFT-4
T210	1-409-273-00	VIFT-T4
T211	1-403-730-00	VIFT-5
T212	1-409-216-00	Trap, 6.0 MHz
T213	1-403-864-00	SIFT-1
T214	1-403-843-00	SIFT-2
T301	1-425-678-00	Take-off, TOT
T302	1-425-831-00	Band Pass, BPT-1
T303	1-405-372-00	Burst Amp, BAT
T304	1-425-618-00	CW Oscillator, COT
T305	1-425-506-00	Band Pass, BPT-2
T306	1-425-832-00	Delay Adjust, DAT
T501	1-439-141-00	Horizontal Output, HOT
T502	1-437-049-00	Horizontal Drive, HDT
T503	1-421-226-00	Pincushion Correction, PCT
T603	1-437-043-00	Chopper Drive, CDT
T801	1-439-140-00	Flyback, FBT
T901	1-427-376-00	Sound Output, SOT
T902	1-442-221-00	Heater, HT

CAPACITORS

All capacitors are in μF, 50 V, ceramic unless otherwise noted.
p = μμF, elect = electrolytic.

C106	1-121-651-11	10	16 V	elect
C107	1-121-391-11	1	50 V	elect
C108		----------		
C109	1-108-638-31	0.1	100 V	mylar
C110	1-121-398-11	10	25 V	elect

Ref. No.	Part No.	Description		
C131	1-102-100-11	0.0022		
C132	1-102-858-11	10 p		
C133	1-101-886-11	62 p		
C134	1-102-100-11	0.0022		
C135	1-101-006-11	0.047		
C136	1-102-100-11	0.0022		
C137		----------		
C138	1-102-043-11	1000 p	500 V	feed through
C151	1-121-422-11	220	25 V	elect
C152	1-102-978-11	220 p		
C153	1-102-820-11	330 p		
C154	1-102-959-11	22 p		
C155	1-102-662-11	7 p		
C156	1-102-662-11	7 p		
C157	1-121-395-11	4.7	25 V	elect
C158	1-121-726-11	0.47	50 V	elect
C159	1-121-726-11	0.47	50 V	elect
C160	1-101-888-11	68 p		
C161	1-101-810-11	100 p	500 V	
C162	1-102-116-11	680 p		
C163	1-102-113-11	390 p		
C164	1-102-116-11	680 p		
C165	1-102-113-11	390 p		
C166	1-102-116-11	680 p		
C167	1-102-113-11	390 p		
C169	1-121-450-11	2.2	50 V	elect
C170		----------		
C171		----------		
C201	1-102-529-11	100 p		
C202	1-102-963-11	33 p		
C203	1-102-604-11	33 p		
C204	1-102-822-11	390 p		
C205	1-102-125-11	0.0047		
C206	1-102-935-11	2 p		
C207	1-102-125-11	0.0047		
C208	1-102-125-11	0.0047		
C209	1-102-129-11	0.01		
C210	1-102-125-11	0.0047		
C211	1-102-941-11	4 p		

Ref. No.	Part No.	Description		
C212	1-102-125-11	0.0047		
C213	1-102-125-11	0.0047		
C214	1-102-125-11	0.0047		
C215	1-102-936-11	3 p		
C216	1-121-402-11	33	10 V	elect
C217	1-102-125-11	0.0047		
C218	1-121-402-11	33	10 V	elect
C219	1-102-125-11	0.0047		
C220	1-102-662-11	7 p		
C221	1-102-125-11	0.0047		
C222	1-102-125-11	0.0047		
C223	1-102-934-11	1 p		
C224	1-102-947-11	10 p		
C225	1-102-125-11	0.0047		
C226	1-121-402-11	33	10 V	elect
C227	1-121-422-11	220	25 V	elect
C228	1-102-125-11	0.0047		
C229	1-102-824-11	470 p		
C230	1-121-402-11	33	10 V	elect
C231	1-121-402-11	33	10 V	elect
C232	1-121-391-11	1	50 V	elect
C233	1-108-630-31	0.022	100 V	mylar
C234	1-121-393-11	3.3	50 V	elect
C235	1-121-393-11	3.3	50 V	elect
C236		----------		
C237	1-121-404-11	33	25 V	elect
C238	1-102-936-11	3 p		
C239	1-102-936-11	3 p		
C240	1-102-947-11	10 p		
C241	1-102-951-11	15 p		
C242	1-102-942-11	5 p		
C243	1-101-006-11	0.047	500 V	
C244	1-121-426-11	470	16 V	elect
C245	1-102-129-11	0.01		
C246	1-102-666-11	12 p		
C247	1-101-006-11	0.047	500 V	
C248	1-101-361-11	150 p		
C249	1-121-651-11	10	16 V	elect
C250		----------		

Ref. No.	Part No.	Description		
C251	1-121-391-11	1	50 V	elect
C252		----------		
C253	1-121-168-11	1	350 V	elect
C254	1-102-973-11	100 p		
C255	1-108-628-31	0.015	100 V	mylar
C256	1-121-421-11	220	16 V	elect
C257	1-102-947-11	10 p		
C258	1-102-942-11	5 p		
C259	1-102-125-11	0.0047		
C260	1-102-043-11	1000 p	500 V	feed through
C261	1-102-125-11	0.0047		
C262	1-101-576-11	1.5 p		
C263	1-102-525-11	68 p		
C264	1-102-774-11	47 p		
C265	1-102-125-11	0.0047		
C266	1-102-125-11	0.0047		
C267	1-102-125-11	0.0047		
C268	1-121-393-11	3.3		elect
C269		----------		
C270	1-102-963-11	33 p		
C271	1-102-125-11	0.0047		
C272	1-108-626-31	0.01	100 V	mylar
C273	1-108-632-31	0.033	100 V	mylar
C274	1-101-880-11	47 p		
C275		----------		
C276	1-121-705-11	2.2	25 V	non-polar
C301	1-102-889-11	39 p		
C302	1-101-004-11	0.01		
C303	1-101-004-11	0.01		
C304	1-102-934-11	1 p		
C305	1-121-413-11	100	6.3 V	elect
C306	1-101-006-11	0.047		
C307	1-101-004-11	0.01		
C308	1-101-006-11	0.047		
C309	1-102-973-11	100 p		
C310	1-102-973-11	100 p		
C311	1-102-973-11	100 p		
C312	1-102-973-11	100 p		
C313	1-102-973-11	100 p		

Ref. No.	Part No.	Description		
C314	1-101-004-11	0.01		
C315	1-101-004-11	0.01		
C316	1-101-004-11	0.01		
C317	1-101-004-11	0.01		
C318	1-102-965-11	39 p		
C319	1-102-941-11	4 p		
C320	1-121-395-11	4.7	25 V	elect
C321	1-101-006-11	0.047		
C322	1-101-006-11	0.047		
C323	1-101-576-11	1.5 p		
C324	1-102-676-11	68 p		
C325	1-102-961-11	27 p		
C326	1-102-963-11	33 p		
C327	1-102-959-11	22 p		
C328	1-101-004-11	0.01		
C329	1-101-004-11	0.01		
C330	1-101-004-11	0.01		
C331	1-102-959-11	22 p		
C332	1-101-004-11	0.01		
C333	1-101-004-11	0.01		
C334	1-101-880-11	47 p		
C335	1-101-006-11	0.047		
C336	1-102-676-11	68 p		
C337	1-102-963-11	33 p		
C338	1-121-398-11	10	25 V	elect
C339	1-102-074-11	0.001		
C340		----------		
C341	1-102-973-11	100 p		
C342	1-102-117-11	820 p		
C343	1-121-391-11	1	50 V	elect
C344	1-121-651-11	10	16 V	elect
C345	1-101-006-11	0.047		
C346	1-101-006-11	0.047		
C347	1-121-651-11	10	16 V	elect
C348	1-101-004-11	0.01		
C349	1-101-888-11	68 p		
C350	1-101-888-11	68 p		
C351	1-102-973-11	100 p		

Ref. No.	Part No.	Description		
C352	1-102-942-11	5 p		
C353	1-102-942-11	5 p		
C354	1-101-004-11	0.01		
C355	1-121-398-11	10	25 V	elect
C356	1-108-630-31	0.022	100 V	mylar
C357	1-121-391-11	1	50 V	elect
C358	1-108-630-31	0.022	100 V	mylar
C359	1-108-630-31	0.022	100 V	mylar
C360	1-108-630-31	0.022	100 V	mylar
C361	1-121-395-11	4.7	25 V	elect
C362	1-102-116-11	680 p		
C363	1-102-116-11	680 p		
C364	1-102-973-11	100 p		
C365	1-102-973-11	100 p		
C366	1-102-116-11	680 p		
C367	1-102-116-11	680 p		
C368		----------		
C369	1-101-006-11	0.047		
C370	1-101-004-11	0.01		
C371	1-102-947-11	10 p		
C372	1-121-398-11	10	25 V	elect
C373	1-101-006-11	0.047		
C374	1-102-863-11	82 p		
C375	1-102-679-11	120 p		
C376	1-101-004-11	0.01		
C377	1-101-004-11	0.01		
C378	1-101-004-11	0.01		
C379	1-101-004-11	0.01		
C380	1-101-004-11	0.01		
C381	1-101-006-11	0.047		
C382	1-101-004-11	0.01		
C383	1-121-391-11	1	50 V	elect
C384	1-101-006-11	0.047		
C385	1-121-415-11	100	16 V	elect
C386	1-101-004-11	0.01		
C387		----------		
C388	1-102-978-11	220 p		
C389	1-102-978-11	220 p		
C390	1-102-961-11	27 p		

Ref. No.	Part No.	Description		
C391	1-101-004-11	0.01		
C392	1-121-391-11	1	50 V	elect
C393	1-102-961-11	27 p		
C394	1-102-961-11	27 p		
C395	1-102-961-11	27 p		
C396	1-102-961-11	27 p		
C397	1-102-961-11	27 p		
C398	1-102-961-11	27 p		
C399	1-102-961-11	27 p		
C400	1-102-961-11	27 p		
C401	1-102-961-11	27 p		
C402	1-102-961-11	27 p		
C403	1-102-959-11	22 p		
C404	1-102-959-11	22 p		
C405	1-102-959-11	22 p		
C406	1-101-004-11	0.01		
C407	1-102-963-11	33 p		
C408	1-102-963-11	33 p		
C409	1-121-391-11	1	50 V	elect
C410	1-101-006-11	0.047		
C411	1-102-961-11	27 p		
C412	1-102-100-11	0.0022		
C413	1-101-004-11	0.01		
C414	1-101-004-11	0.01		
C415	1-102-100-11	0.0022		
C416	1-102-100-11	0.0022		
C417	1-102-100-11	0.0022		
C501	1-121-391-11	1	50 V	elect
C502	1-108-620-31	0.0033	100 V	mylar
C503	1-108-622-31	0.0047	100 V	mylar
C504	1-121-391-11	1	50 V	elect
C505	1-121-421-11	220	16 V	elect
C506	1-121-651-11	10	16 V	elect
C507	1-127-024-11	2.2	10 V	solid aluminum
C508	1-121-651-11	10	16 V	elect
C509	1-121-391-11	1	50 V	elect
C510	1-108-636-31	0.068	100 V	mylar
C511	1-108-628-31	0.015	100 V	mylar
C512	1-108-638-31	0.1	100 V	mylar

Ref. No.	Part No.	Description		
C513	1-131-249-11	6.8	16 V	tantalum
C514	1-129-927-11	0.015	100 V	film
C515	1-106-184-12	0.0033	100 V	mylar
C516	1-121-726-11	0.47	50 V	elect
C517	1-123-093-11	22	160 V	elect
C518	1-102-125-11	0.0047		
C519	1-121-395-11	4.7	25 V	elect
C520	1-121-806-11	10	16 V	non-polar
C521	1-127-024-11	2.2	10 V	solid aluminum
C522	1-121-651-11	10	16 V	elect
C523	1-121-736-11	1000	10 V	elect
C524	1-108-700-31	0.047	200 V	mylar
C525		----------		
C526		----------		
C527	1-131-249-11	6.8	16 V	tantalum
C528		----------		
C529	1-121-651-11	10	16 V	elect
C530	1-108-704-31	0.1	200 V	mylar
C531	1-129-759-11	0.015	200 V	film
C532		----------		
C533	1-123-116-11	1	160 V	elect
C534	1-129-953-11	0.068	1.5 kV	film
C535	1-129-949-11	1	400 V	film
C536	1-108-626-31	0.01	100 V	mylar
C537	1-121-395-11	4.7	25 V	elect
C538	1-121-726-11	0.47	50 V	elect
C539	1-121-726-11	0.47	50 V	elect
C540	1-108-614-31	0.001	100 V	mylar
C541	1-121-417-11	100	50 V	elect
C542	1-129-952-11	0.018	1.5 kV	film
C543	1-123-007-11	4.7	350 V	elect
C544		----------		
C545		----------		
C546	1-121-733-11	470	25 V	elect
C547	1-108-638-31	0.1	100 V	mylar
C548	1-123-024-11	33	160 V	elect
C549	1-102-235-11	36 p	500 V	
C550	1-102-327-11	330 p	1.5 kV ac	

Ref. No.	Part No.	Description		
C551	1-102-110-11	220 p		
C552	1-102-327-11	330 p	1.5 kV ac	
C553	1-101-810-11	100 p	500 V	
C554	1-102-116-11	680 p		
C555	1-102-106-11	100 p		
C556	1-121-726-11	0.47	50 V	elect
C557	1-102-100-11	0.0022		
C558	1-102-116-11	680 p		
C559	1-123-116-11	1	160 V	elect
C560		----------		
C564	1-101-810-11	100 p	500 V	
C565	1-102-973-11	100 p		
C566	1-121-409-11	47	16 V	elect
C567		----------		
C568		----------		
C569	1-102-110-11	220 p		
C570	1-101-810-11	100 p	500 V	
C571		----------		
C572		----------		
C573		----------		
C574	1-101-804-11	10 p	500 V	
C577	1-121-415-11	100	16 V	elect
C585	1-121-918-11	4.7	100 V	elect
C586		----------		
C587	1-121-736-11	1000	10 V	elect
C588	1-108-632-31	0.033	100 V	mylar
C594	1-129-949-11	1	400 V	film
C604	1-123-128-11	120	400 V	elect
C605	1-123-032-11	22	400 V	elect
C606	1-123-128-11	120	400 V	elect
C607		----------		
C608	1-102-050-11	0.01	500 V	
C609	1-129-901-11	0.0022	1 kV	film
C610	1-101-004-11	0.01		
C611	1-108-620-31	0.0033	100 V	mylar
C612	1-121-738-11	10	50 V	elect
C613	1-121-395-11	4.7	25 V	elect
C614	1-106-172-12	0.001	100 V	mylar
C615	1-102-824-11	470 p		

Ref. No.	Part No.	Description		
C616	1-121-726-11	0.47	50 V	elect
C617	1-101-006-11	0.047		
C618	1-102-115-11	560 p		
C619		----------		
C620	1-121-395-11	4.7	25 V	elect
C621	1-123-024-11	33	160 V	elect
C622	1-102-157-11	560 p	500 V	
C623	1-121-999-11	10	160 V	elect
C624	1-121-410-11	47	25 V	elect
C625	1-121-726-11	0.47	50 V	elect
C626	1-102-106-11	100 p		
C627		----------		
C628	1-102-050-11	0.01	500 V	
C629	1-101-810-11	100 p	500 V	
C630	1-108-626-31	0.01	100 V	mylar
C631	1-102-085-11	0.0047	500 V	
C632	1-102-085-11	0.0047	500 V	
C633	1-102-085-11	0.0047	500 V	
C634	1-102-085-11	0.0047	500 V	
C635	1-108-747-11	0.1	300 V	mylar
C636	1-108-745-11	0.22	300 V	mylar
C637	1-108-747-11	0.1	300 V	mylar
C638		----------		
C704	1-129-739-11	0.1	630 V	film
C705	1-129-779-11	0.022	1 kV	film
C706	1-102-050-11	0.01	500 V	
C751	1-129-964-11	0.027	200 V	film
C755	1-129-950-11	0.024	1 kV	film
C761	1-121-391-11	1	50 V	elect
C801	1-108-702-31	0.068	200 V	mylar
C802	1-129-951-11	0.055	1 kV	film
CV201	1-141-138-00	Trimmer, 1 p ~ 5 p		

RESISTORS

All resistors are in ohms, ± 5 %, ¼ W, carbon unless otherwise noted. k = 1000 ohms. M = 1000 k ohms.

R133	1-244-699-11	12 k

Ref. No.	Part No.	Description	
R134	1-244-685-11	3.3 k	
R135	1-244-659-11	270	
R136		----------	
R137		----------	
R138		----------	
R139		----------	
R140	1-244-659-11	270	
R141	1-244-649-11	100	
R153	1-244-679-11	1.8 k	
R154	1-244-657-11	220	
R155	1-244-649-11	100	
R156	1-244-679-11	1.8 k	
R157	1-244-665-11	470	
R158	1-244-661-11	330	
R159	1-244-673-11	1 k	
R160	1-244-685-11	3.3 k	
R161	1-244-701-11	15 k	
R162	1-244-709-11	33 k	
R163	1-244-713-11	47 k	
R164	1-244-705-11	22 k	
R165		----------	
R166		----------	
R167	1-244-665-11	470	
R168	1-244-657-11	220	
R169	1-244-677-11	1.5 k	
R170	1-244-649-11	100	
R171	1-244-693-11	6.8 k	
R172	1-244-679-11	1.8 k	
R173	1-244-893-11	6.8 k	½ W
R174	1-244-683-11	2.7 k	
R175		----------	
R176	1-244-661-11	330	
R177	1-244-675-11	1.2 k	
R178	1-244-683-11	2.7 k	
R179		----------	
R180	1-244-661-11	330	
R181	1-244-675-11	1.2 k	
R182	1-244-683-11	2.7 k	

Ref. No.	Part No.	Description
R183		----------
R184	1-244-661-11	330
R185	1-244-675-11	1.2 k
R201		----------
R202		----------
R203	1-244-621-11	6.8
R204	1-244-685-11	3.3 k
R205	1-244-660-11	300
R206	1-244-665-11	470
R207	1-244-683-11	2.7 k
R208	1-244-673-11	1 k
R209	1-244-649-11	100
R210	1-244-667-11	560
R211	1-244-689-11	4.7 k
R212	1-244-666-11	510
R213	1-244-689-11	4.7 k
R214	1-244-679-11	1.8 k
R215	1-244-667-11	560
R216	1-244-657-11	220
R217	1-244-693-11	6.8 k
R218	1-244-675-11	1.2 k
R219	1-244-693-11	6.8 k
R220	1-244-669-11	680
R221	1-244-699-11	12 k
R222	1-244-669-11	680
R223	1-244-665-11	470
R224	1-244-661-11	330
R225	1-244-697-11	10 k
R226	1-244-649-11	100
R227	1-244-691-11	5.6 k
R228	1-244-673-11	1 k
R229	1-244-673-11	1 k
R230	1-244-697-11	10 k
R231	1-244-659-11	270
R232	1-244-649-11	100
R233	1-244-657-11	220
R234	1-244-677-11	1.5 k
R235	1-244-649-11	100

Ref. No.	Part No.	Description		
R236	1-244-721-11	100 k		
R237	1-244-689-11	4.7 k		
R238	1-244-665-11	470		
R239	1-244-683-11	2.7 k		
R240	1-244-705-11	22 k		
R246		----------		
R247		----------		
R248		----------		
R249	1-244-658-11	240		
R250	1-244-662-11	360		
R251	1-244-663-11	390		
R252	1-244-697-11	10 k		
R253	1-244-673-11	1 k		
R254	1-244-649-11	100		
R255	1-244-682-11	2.4 k		
R256	1-244-705-11	22 k		
R257	1-244-697-11	10 k		
R258	1-206-650-11	270	2 W	metal oxide
R259	1-244-699-11	12 k		
R260	1-244-673-11	1 k		
R261		----------		
R262	1-244-725-11	150 k		
R263	1-244-729-11	220 k		
R264	1-244-665-11	470		
R265	1-244-731-11	270 k		
R266	1-206-481-11	56	2 W	metal oxide
R267	1-244-689-11	4.7 k		
R268	1-206-650-11	270	2 W	metal oxide
R269	1-244-685-11	3.3 k		
R270	1-244-673-11	1 k		
R271	1-244-673-11	1 k		
R272	1-244-737-11	470 k		
R273	1-244-727-11	180 k		
R274		----------		
R275		----------		
R276	1-206-692-11	15 k	2 W	metal oxide
R277	1-244-718-11	75 k		
R278		----------		
R279		----------		

Ref. No.	Part No.	Description
R280		----------
R281		----------
R282	1-244-685-11	3.3 k
R283	1-244-691-11	5.6 k
R284		----------
R285	1-244-723-11	120 k
R286	1-244-637-11	33
R300	1-244-679-11	1.8 k
R301	1-244-669-11	680
R302	1-244-697-11	10 k
R303	1-244-685-11	3.3 k
R304	1-244-653-11	150
R305	1-244-673-11	1 k
R306	1-244-669-11	680
R307	1-244-681-11	2.2 k
R308	1-244-685-11	3.3 k
R309	1-244-697-11	10 k
R310	1-244-697-11	10 k
R311	1-244-697-11	10 k
R312	1-244-697-11	10 k
R313	1-244-657-11	220
R314	1-244-701-11	15 k
R315	1-244-697-11	10 k
R316	1-244-673-11	1 k
R317	1-244-681-11	2.2 k
R318	1-244-701-11	15 k
R319	1-244-697-11	10 k
R320	1-244-673-11	1 k
R321	1-244-637-11	33
R322	1-244-637-11	33
R323	1-244-697-11	10 k
R324	1-244-661-11	330
R325	1-244-681-11	2.2 k
R326	1-244-665-11	470
R327	1-244-701-11	15 k
R328	1-244-685-11	3.3 k
R329	1-244-653-11	150
R330	1-244-673-11	1 k

Ref. No.	Part No.	Description
R331	1-244-633-11	22
R332	1-244-661-11	330
R333	1-244-653-11	150
R334	1-244-701-11	15 k
R335	1-244-685-11	3.3 k
R336	1-244-675-11	1.2 k
R337	1-244-637-11	33
R338	1-244-661-11	330
R339	1-244-657-11	220
R340	1-244-709-11	33 k
R341	1-244-681-11	2.2 k
R342	1-244-647-11	82
R343	1-244-709-11	33 k
R344	1-244-733-11	330 k
R345	1-244-693-11	6.8 k
R346	1-244-681-11	2.2 k
R347	1-244-683-11	2.7 k
R348	1-244-669-11	680
R349	1-244-701-11	15 k
R350	1-244-717-11	68 k
R351	1-244-697-11	10 k
R352	1-244-685-11	3.3 k
R353	1-244-633-11	22
R354	1-244-713-11	47 k
R355	1-244-673-11	1 k
R356	1-244-705-11	22 k
R357	1-244-673-11	1 k
R358	1-244-673-11	1 k
R359	1-244-697-11	10 k
R360	1-244-697-11	10 k
R361	1-244-669-11	680
R362	1-244-679-11	1.8 k
R363	1-244-679-11	1.8 k
R364	1-244-709-11	33 k
R365	1-244-701-11	15 k
R366	1-244-677-11	1.5 k
R367	1-244-641-11	47
R368	1-244-673-11	1 k
R369	1-244-693-11	6.8 k

Ref. No.	Part No.	Description		
R370	1-244-685-11	3.3 k		
R371	1-244-697-11	10 k		
R372	1-244-721-11	100 k		
R373	1-244-685-11	3.3 k		
R374	1-244-717-11	68 k		
R375	1-213-133-11	150	1 W	metal oxide
R376	1-244-673-11	1 k		
R377	1-244-705-11	22 k		
R378	1-244-721-11	100 k		
R379	1-244-705-11	22 k		
R380	1-244-721-11	100 k		
R381	1-244-673-11	1 k		
R382	1-244-697-11	10 k		
R383	1-244-721-11	100 k		
R384	1-244-683-11	2.7 k		
R385	1-244-653-11	150		
R386	1-244-653-11	150		
R387	1-244-637-11	33		
R388	1-244-661-11	330		
R389	1-244-669-11	680		
R390	1-244-645-11	68		
R391	1-244-693-11	6.8 k		
R392	1-244-709-11	33 k		
R393	1-244-653-11	150		
R394	1-244-665-11	470		
R395	1-244-645-11	68		
R396	1-244-663-11	390		
R397	1-244-663-11	390		
R398	1-244-653-11	150		
R399	1-244-697-11	10 k		
R400	1-244-683-11	2.7 k		
R401	1-244-677-11	1.5 k		
R402	1-244-681-11	2.2 k		
R403	1-244-677-11	1.5 k		
R404	1-244-665-11	470		
R405	1-244-645-11	68		
R406	1-244-673-11	1 k		
R407	1-244-673-11	1 k		

Ref. No.	Part No.	Description
R408	1-244-669-11	680
R409	1-244-661-11	330
R410	1-244-679-11	1.8 k
R411	1-244-685-11	3.3 k
R412	1-244-669-11	680
R413	1-244-645-11	68
R414	1-244-673-11	1 k
R415	1-244-673-11	1 k
R416	1-244-641-11	47
R417	1-244-673-11	1 k
R418	1-244-677-11	1.5 k
R419	1-244-693-11	6.8 k
R420	1-244-677-11	1.5 k
R421	1-244-697-11	10 k
R422	1-244-697-11	10 k
R423	1-244-657-11	220
R424	1-244-661-11	330
R425	1-244-681-11	2.2 k
R426	1-244-657-11	220
R427	1-244-679-11	1.8 k
R428	1-244-679-11	1.8 k
R429	1-244-673-11	1 k
R430	1-244-673-11	1 k
R431	1-244-689-11	4.7 k
R432	1-244-689-11	4.7 k
R433	1-244-673-11	1 k
R434	1-244-673-11	1 k
R435	1-244-697-11	10 k
R436	1-244-697-11	10 k
R437	1-244-673-11	1 k
R438	1-244-673-11	1 k
R439	1-244-697-11	10 k
R440	1-244-697-11	10 k
R441	1-244-673-11	1 k
R442	1-244-673-11	1 k
R443	1-244-689-11	4.7 k
R444	1-244-689-11	4.7 k
R445	1-244-661-11	330

Ref. No.	Part No.	Description
R457	1-244-709-11	33 k
R458	1-244-709-11	33 k
R459	1-244-681-11	2.2 k
R460	1-244-681-11	2.2 k
R461	1-244-693-11	6.8 k
R462	1-244-693-11	6.8 k
R482	1-244-685-11	3.3 k
R483	1-244-665-11	470
R484	1-244-649-11	100
R485	1-244-703-11	18 k
R486	1-244-706-11	24 k
R487	1-244-665-11	470
R488	1-244-665-11	470
R489	1-244-661-11	330
R490	1-244-657-11	220
R491	1-244-649-11	100
R492	1-244-657-11	220
R493	1-244-661-11	330
R494	1-244-661-11	330
R501	1-244-685-11	3.3 k
R502	1-244-681-11	2.2 k
R503	1-244-697-11	10 k
R504	1-244-690-11	5.1 k
R505	1-244-701-11	15 k
R506	1-244-665-11	470
R507	1-244-673-11	1 k
R508	1-244-661-11	330
R509	1-244-689-11	4.7 k
R510	1-244-703-11	18 k
R511	1-244-905-11	22 k ½ W
R512	1-244-703-11	18 k
R513	1-244-619-11	5.6
R514	1-244-658-11	240
R515	1-244-679-11	1.8 k
R516	1-244-659-11	270
R517	1-244-680-11	2 k
R518	1-244-699-11	12 k
R519	1-244-687-11	3.9 k
R520	1-244-699-11	12 k

Ref. No.	Part No.	Description
R521	1-244-681-11	2.2 k
R522	1-244-681-11	2.2 k
R523	1-244-673-11	1 k
R524	1-244-673-11	1 k
R525	1-244-680-11	2 k
R526	1-244-681-11	2.2 k
R527	1-213-163-11	47 k 1 W metal oxide
R528	1-244-721-11	100 k
R529	1-244-697-11	10 k
R530	1-244-697-11	10 k
R531	1-211-417-11	22 ⅛ W
R532	1-207-466-11	1.8 ½ W wirewound
R533	1-213-153-11	6.8 k 1 W metal oxide
R534	1-244-673-11	1 k
R535	1-244-719-11	82 k
R536	1-244-689-11	4.7 k
R537	1-244-667-11	560
R538		----------
R539	1-244-917-11	68 k ½ W
R540	1-244-651-11	120
R541	1-244-677-11	1.5 k
R542	1-244-701-11	15 k
R543	1-244-825-11	10 ½ W
R544	1-244-901-11	15 k ½ W
R545	1-211-409-11	10 ⅛ W
R546	1-244-713-11	47 k
R547	1-244-697-11	10 k
R548		----------
R549		----------
R550	1-244-731-11	270 k
R551	1-244-677-11	1.5 k
R55[illegible]	1-244-859-11	270 ½ W
R557	1-244-685-11	3.3 k
R560	1-211-590-11	10 ½ W
R561		----------
R562	1-244-681-11	2.2 k
R563	1-244-673-11	1 k
R564	1-213-134-11	180 1 W metal oxide
R565	1-244-649-11	100

Ref. No.	Part No.	Description
R566	1-244-649-11	100
R567	1-244-685-11	3.3 k
R568	1-244-665-11	470
R569	1-244-873-11	1 k ½ W
R570	1-244-661-11	330
R571	1-211-555-11	3.3 k
R572	1-210-860-11	1.2
R573	1-213-166-11	560 k metal oxide
R574	1-244-681-11	2.2 k
R575	1-207-984-11	1.8 3 W wirewound
R576	1-244-649-11	100
R577	1-244-697-11	10 k
R578	1-244-691-11	5.6 k
R579	1-244-681-11	2.2 k
R580		----------
R581	1-206-703-11	120 3 W metal oxide
R582	1-244-689-11	4.7 k
R583	1-244-625-11	10
R584	1-244-697-11	10 k
R585	1-244-825-11	10 ½ W
R586	1-206-471-11	22 2 W metal oxide
R587	1-244-697-11	10 k
R588	1-244-683-11	2.7 k
R589	1-244-693-11	6.8 k
R590	1-244-673-11	1 k
R591	1-244-679-11	1.8 k
R592	1-207-672-11	2.2 5 W wirewound
R593		----------
R594	1-206-485-11	82 2 W metal oxide
R595		----------
R596		----------
R597	1-206-457-11	5.6 2 W metal oxide
R598	1-244-697-11	10 k
R601		----------
R602	1-206-656-11	470 2 W metal oxide
R603	1-244-937-11	470 k ½ W
R604	1-244-703-11	18 k
R605	1-244-921-11	100 k ½ W

Ref. No.	Part No.	Description		
R606	1-244-921-11	100 k	½ W	
R607	1-207-959-11	10	7 W	wirewound
R608	1-206-662-11	820	2 W	metal oxide
R609	1-244-633-11	22		
R610	1-207-700-11	5.6	7 W	wirewound
R611		----------		
R612	1-244-679-11	1.8 k		
R613		----------		
R614		----------		
R615		----------		
R616	1-206-477-11	39	2 W	metal oxide
R617	1-211-934-11	56	1/8 W	
R618	1-206-700-11	33 k	2 W	metal oxide
R619	1-206-467-11	15	2 W	metal oxide
R620	1-244-669-11	680		
R621	1-206-467-11	15	2 W	metal oxide
R622	1-206-463-11	10	2 W	metal oxide
R623	1-244-677-11	1.5 k		
R624	1-244-689-11	4.7 k		
R625	1-244-669-11	680		
R626	1-244-691-11	5.6 k		
R627	1-244-689-11	4.7 k		
R628	1-244-667-11	560		
R629	1-244-673-11	1 k		
R630	1-244-725-11	150 k		
R631	1-244-709-11	33 k		
R632	1-244-673-11	1 k		
R633	1-244-705-11	22 k		
R634	1-244-731-11	270 k		
R635	1-244-709-11	33 k		
R636	1-244-691-11	5.6 k		
R637	1-244-685-11	3.3 k		
R638	1-244-684-11	3 k		
R639	1-244-649-11	100		
R640	1-213-140-11	560	1 W	metal oxide
R641	1-244-665-11	470		
R642	1-206-648-11	220	2 W	metal oxide
R643		----------		
R644	1-244-697-11	10 k		

Ref. No.	Part No.	Description		
R701	1-202-630-11	240 k	½ W	composition
R702		----------		
R703		----------		
R704	1-206-692-11	15 k	2 W	metal oxide
R705	1-206-692-11	15 k	2 W	metal oxide
R706	1-206-692-11	15 k	2 W	metal oxide
R707	1-202-585-11	3.3 k	½ W	composition
R708	1-202-585-11	3.3 k	½ W	composition
R709	1-202-585-11	3.3 k	½ W	composition
R719	1-202-637-11	470 k	½ W	composition
R720	1-202-639-11	560 k	½ W	composition
R721	1-202-633-11	330 k	½ W	composition
R722	1-202-620-11	91 k	½ W	composition
R723	1-202-629-11	220 k	½ W	composition
R724	1-202-639-11	560 k	½ W	composition
R725	1-202-639-11	560 k	½ W	composition
R726	1-202-637-11	470 k	½ W	composition
R727	1-202-629-11	220 k	½ W	composition
R728	1-202-629-11	220 k	½ W	composition
R729		----------		
R730	1-202-543-11	56	½ W	composition
R731	1-244-649-11	100		
R732	1-244-649-11	100		
R733	1-244-649-11	100		
R751	1-206-705-11	150	3 W	metal oxide
R752	1-244-853-11	150	½ W	
R761	1-206-642-11	120	2 W	metal oxide
R762	1-206-485-11	82	2 W	metal oxide
R763	1-213-136-11	270	1 W	metal oxide
R764	1-213-136-11	270	1 W	metal oxide
R765	1-244-647-11	82		
R766	1-244-679-11	1.8 k		
R767	1-244-707-11	27 k		
R768	1-244-665-11	470		
R769	1-244-703-11	18 k		
R770		----------		
R801	1-244-925-11	150 k	½ W	
R802	1-244-885-11	3.3 k	½ W	

Ref. No.	Part No.	Description		
R803	1-202-788-11	10 k	1 W	composition
R804	1-202-776-11	1 k	1 W	composition
R901	1-217-518-11	6.8	20 W	cement coated
R902	1-217-182-11	10	20 W	cement coated
R903	1-207-679-11	15	5 W	wirewound
R904	1-207-457-11	0.33	½ W	wirewound
	1-207-462-11	0.82	½ W	wirewound
	1-207-465-11	1.5	½ W	wirewound
	1-207-469-11	3.3	½ W	wirewound
R905		----------		
R906	1-210-867-11	4 M	½ W	composition
VR151	1-222-515-00	330-B, adjustable; B. DRIVE		
VR152	1-222-344-00	5 k-B, adjustable; B. BKG		
VR153	1-222-515-00	330-B, adjustable; G. DRIVE		
VR154	1-222-344-00	5 k-B, adjustable; G. BKG		
VR155	1-222-515-00	330-B, adjustable; R. DRIVE		
VR156	1-222-344-00	5 k-B, adjustable; R. BKG		
VR201	1-222-516-00	470-B, adjustable; U. TUNER AGC		
VR202		----------		
VR203	1-222-516-00	470-B, adjustable; SND TRAP ADJ		
VR204	1-222-517-00	1 k-B, adjustable; DET OUT ADJ		
VR301	1-222-784-00	3.3 k-B, adjustable; DMP ADJ		
VR302	1-222-518-00	4.7 k-B, adjustable; IDP ADJ		
VR303	1-222-517-00	1 k-B, adjustable; ACC		
VR304	1-222-515-00	330-B, adjustable; SMB ADJ		
VR305	1-222-515-00	330-B, adjustable; VSB ADJ		
VR321	1-224-345-00	1 k-B x 2, variable; PICTURE		
VR322	1-224-346-00	50 k-D, variable; VOLUME		
VR323	1-224-144-00	50 k-D, variable; TONE		
VR324	1-224-356-00	500-B, variable; COLOUR		
VR325	1-224-356-00	500-B, variable; HUE		
VR326	1-224-018-00	20 k-B, variable; BRIGHT		
VR501	1-224-147-00	20 k-B, adjustable; VER		
VR502	1-222-518-00	4.7 k-B, adjustable; V. LIN		
VR503	1-222-512-00	10 k-B, adjustable; V. SIZE		
VR504	1-222-786-00	22 k-B, adjustable; H. FREQ		
VR505	1-222-787-00	10 k-B, adjustable; V. BIAS		
VR585	1-222-786-00	22 k-B, adjustable; PIN AMP		
VR586	1-222-784-00	3.3 k-B, adjustable; PIN BIAS		

: to be selected.

Ref. No.	Part No.	Description
VR601	1-222-518-00	4.7 k-B, adjustable; 130 V ADJ
VR704	1-224-150-00	1 M-B, adjustable; G2 ADJ
VR751	1-223-019-00	300-B, adjustable; H. TILT
VR752	1-225-138-00	500-B, adjustable; V. STAT
VR852	1-224-152-00	47 M-B, adjustable; H. STAT

MISCELLANEOUS

	1-452-014-00	Magnet, disk; 15 mm dia
	1-452-032-00	Magnet, disk; 10 mm dia
	1-452-060-21	Magnet, beam misconvergence correction; BMC
	1-453-046-31	High Voltage Rectifier Block Ass'y including;
	1-526-199-91	Cap, anode
SP901	1-502-484-00	Speaker, 8 ohms
J901A, J902A	1-507-372-21	Jack, earpiece
SW301	1-516-391-00	Switch, slide; AFT
SW302	1-516-391-00	Switch, slide; AUTO/MANUAL COLOUR
SW901	1-516-390-00	Switch, pushbutton; POWER PUSH ON/OFF
SW902	1-514-266-00	Switch, leaf
SG501	1-519-063-00	Spark Gap, 1.5 kV
SG701 ~ SG706	1-519-063-00	Spark Gap, 1.5 kV
	1-520-177-00	Meter, channel indication
	1-526-086-00	Socket, picture tube
X301	1-527-183-00	Crystal, 4.43 MHz
F601	1-532-286-00	Fuse, 2.5 AT
F602	1-532-237-00	Fuse, 3.15 AT
F701	1-532-078-00	Fuse, 1 AT
F901	1-532-279-00	Fuse, 500 mAT
	1-533-072-00	Fuse Holder
	1-534-631-00	Coaxial Cable with Plug
	1-534-856-00	Coaxial Cable with Plug
	1-534-632-13	Coaxial Cable with Plug
	1-534-777-00	Mains Cable
	1-536-386-00	Lug, terminal; 1L1B
	1-536-410-00	Lug, terminal; 1L2L2
	1-536-454-21	Terminal Ass'y, aerial
V901	8-735-901-05	Picture Tube, 470DLB22

9-962-009-02

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7710508-6

Printed in Japan